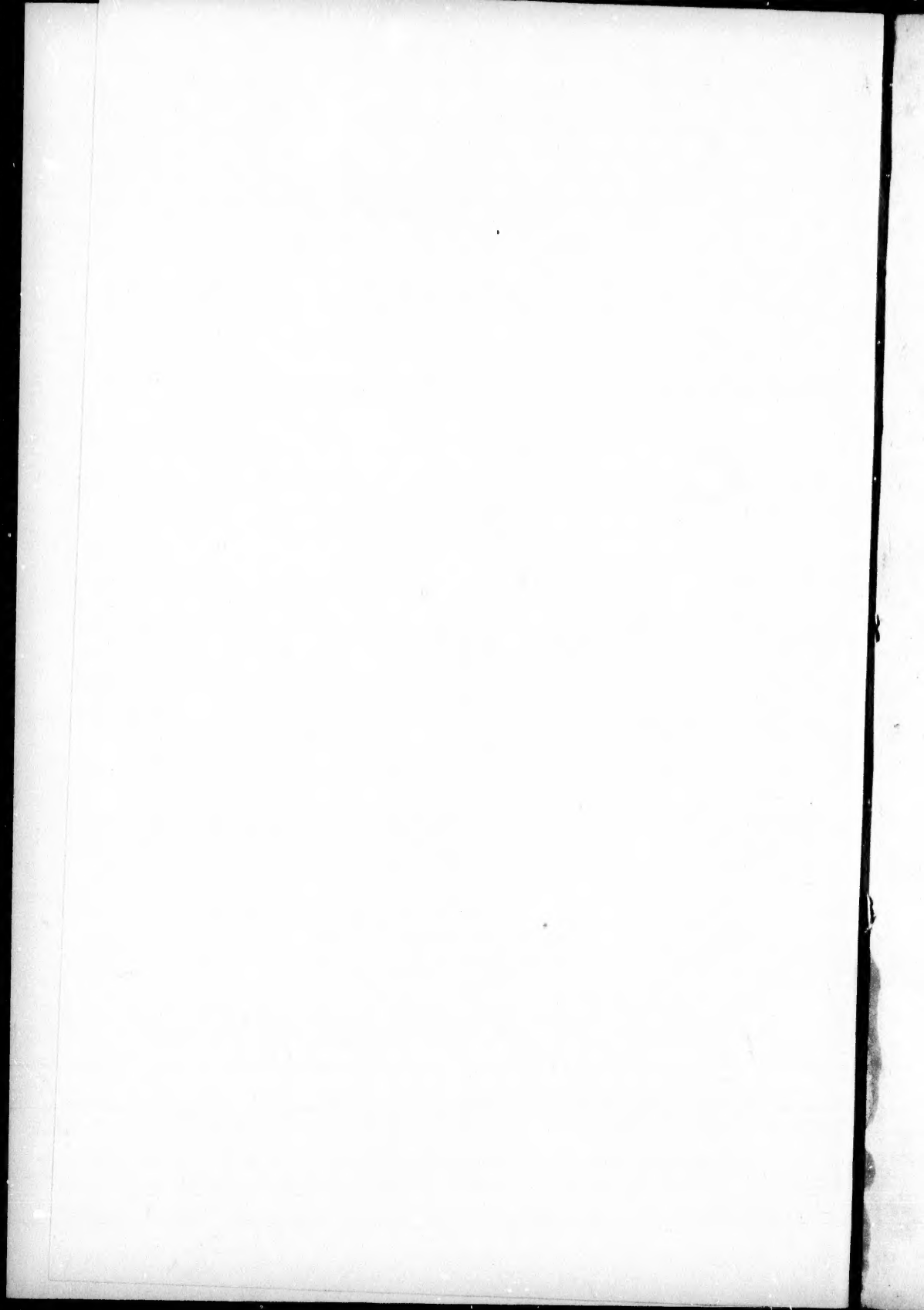




REPORT
UPON THE
FISHERIES
OF
THE BAY OF FUNDY,

BY
M. H. PERLEY, ESQUIRE,
HER MAJESTY'S EMIGRATION OFFICER AT SAINT JOHN, NEW BRUNSWICK.



Laid before the House of Assembly by command of His Excellency the Lieutenant Governor, and ordered to be printed,

15th March, 1851.

FREDERICTON:

J. SIMPSON, PRINTER TO THE QUEEN'S MOST EXCELLENT MAJESTY.

1851.

REPORT

FROM THE

FISHERIES

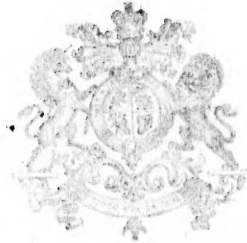
OF

THE BAY OF LUNDY,

BY

M. H. PERLEY, Esq.

THE HONORABLE MEMBER OF PARLIAMENT FOR THE COUNTY OF LINCOLN.



Printed by the Queen's Printer, at the Queen's Press, London.

1871

PRINTED

BY THE QUEEN'S PRINTER, AT THE QUEEN'S PRESS, LONDON.

1871

GOVERNMENT EMIGRATION OFFICE,

Saint John, N. B., 12th March, 1851.

SIR,—In obedience to the command of His Excellency the Lieutenant Governor, communicated in your letter of 6th July last, that I should examine and report upon the Fisheries of the Bay of Fundy, so soon as my duties as Emigration Officer would permit, I commenced the performance of that duty on the 20th of August, accompanied by George Hayward Perley, my second son.

The Island of Grand Manan was visited, in a hooker of 16 tons, belonging to Deer Island, which I hired for the trip. Campo Bello, West Isles, and the shores in that vicinity, were examined in boats of all sizes, adapted for visiting the several localities. The upper part of the Bay of Fundy, (including Cumberland Bay and the Basin of Mines,) was examined in the Sloop Cutter "Juno," which I engaged and fitted out for that service. The South Shore of Nova Scotia was examined by land, the season being too far advanced, and the weather too stormy, to admit of its being visited in the Cutter, without great delay.

I have now the honor to present the accompanying Report, which embodies the information obtained while engaged in performing the duty assigned me, together with some other information in relation to the Fisheries generally, the Markets for Fish in Foreign Countries, the American Bounty system, and the destruction of Fish on spawning grounds.

With this Report, I have also the honor to present, a Catalogue [in part] of the Fishes of New Brunswick and Nova Scotia; in which an attempt has been made to classify the Fishes of these Colonies, according to the system of Baron

Cuvier, in their several orders, families, and genera. In the descriptions of the various species, I have embodied observations made during a long series of years ; and with a very few exceptions, I have described such fish only, as I have myself seen and handled.

This incomplete Catalogue is offered with the hope, that it may lead to further inquiry, and a more perfect knowledge of the habits, haunts, and seasons of the Fishes of our waters ; not merely as matter of interest to the scientific inquirer, but as being of much value to the practical fisherman, who by better information, may be greatly benefited in his calling.

Before entering upon the duty entrusted to me, I made application to His Excellency Sir John Harvey, Lieutenant Governor of Nova Scotia, for permission to pursue my inquiries on the Nova Scotia side of the Bay, and a copy of the Commission under Seal, which His Excellency was pleased to transmit me, is annexed to this Report.

A copy of the Circular Letter of Inquiry which I caused to be printed and circulated, is also annexed to this Report, with some of the replies thereto.

I beg to direct especial attention to the Letter No. 6, in the Appendix, from the Hon. John E. Fairbanks, of Halifax, which contains information and suggestions possessing much interest.

The Hon. the Commissioners of British Fisheries, besides noticing my Report of last year in their Annual Report to Parliament, very kindly forwarded to me a complete set of their Parliamentary Reports, and of the Imperial Acts in relation to the British Fisheries, all which have been of the greatest service. I have also to express my obligation to their Secretary, the Hon. Bouverie Francis Primrose, for his prompt attention in forwarding the prices of Fish in Scotland during the last five years ; and for valuable information respecting the Markets for Fish in Europe, drawn from his admirable Report to the Board of Trade on that important subject.

The directions for taking and curing Herrings, and for curing Cod and Hake, issued by the Board of British Fisheries, having been approved by His Excellency the Lieutenant Governor, one thousand copies thereof were reprinted, and distributed by me among the fishermen in the several localities visited, by many of whom these directions were greatly approved, and highly appreciated.

At every place visited, my mission appeared to give much satisfaction. The greatest kindness was everywhere shown to myself and my son, and very many persons were at great pains to render us assistance. The hospitality invariably extended to us, and the facilities which were cheerfully granted on both sides of the Bay, demand my most sincere acknowledgements.

I have the honor to be, Sir,

Your very obedient servant,

M. H. PERLEY.

The Hon. John R. Partelow, Provincial Secretary.

The specimens for taking and saving Hottelings and the
ing (col and Hottelings) is not of the kind of Hottelings
having been prepared by the Hottelings the Hottelings
Hottelings are then not copied there and retained and
Hottelings by my name the Hottelings in the Hottelings
the Hottelings by name of Hottelings were Hottelings
Hottelings and Hottelings Hottelings.

At every place visited, my mission appeared to give
satisfaction. The greatest kindness was everywhere shown to
myself and my party and very many persons were at great
trouble to render us assistance. The hospitality, especially
tended to us and the facilities which were cheerfully granted
on both sides of the line, demand my most sincere thanks.

ERRATA ET ADDENDA.

PAGE 64.—In 13th line from bottom, for "1500," read "800" feet.

" 88.—In 16th line from bottom, for "are compiled," read "is compiled."

" 131.—At the end of 21st line from bottom, omit the words, "that they."

" 156.—After "Species 1. *Petromyzon*," add "*Americanus*."

PRECIS OF REPORT AND APPENDIX.

THE NEW BRUNSWICK SHORE.

Grand Manan,	2
Cameron's Cove; Doggett's Cove; Flagg's Cove; Long Island; Bencraft's Point; Gull Cove; Grand Harbour; the Southern Head; Dark Har- bour; Money Cove; Long's Eddy; Whale Cove; Meeting of Fishermen; Return of Boats, Vessels, and Men.	
Campo Bello,	23
West Isles,	28
Deer Island,	32
The Coast from L'Etite Passage to Point Lepreau,	35
The Wolves,	36
The value of the Fisheries at West Isles,	37
Eastport,	38
Lubec,	42
The Fisheries of the River Saint Croix,	43
From Point Lepreau to the Harbour of Saint John,	49
Fisheries within the Harbour of Saint John,	50
The River Saint John and its Tributaries,	57
From the Harbour of St. John eastwardly to Cape Enragé,	60
Port Simonds; Black River; Emerson's Creek; Gardner's Creek; Teignmouth; Quaco; Great Salmon River; Long Beach; Little Salmon River; Martin's Head; Goose Creek; Goose River; Point Wolf River; Herring Cove; Upper Salmon River.	
From Cape Enragé to the Boundary of Nova Scotia,	68
Shepody River; the Petitcodiac; Rev. Mr. Gauv- reau's Letter; R. B. Chapman's Letter; from Memramcook to Maranguish; Sackville Bay; Estimate of the quantity of Shad taken on the New Brunswick side of the Bay.	

THE NOVA SCOTIA SHORE.

Cumberland Bay, - - - - -	80
Amherst; Minudie; Mr. Seaman's Letter; Apple River; the Coast to Cape Chignecto, and thence around to Spencer's Island; Greville Bay; West Bay.	
The Basin of Mines, - - - - -	86
Parrsborough; Five Islands; Economy; Windsor; information from Mr. Burgess as to preservation of Shad nets; Cornwallis River; Habitant River.	
The South Shore of the Bay of Fundy, - - - - -	91
The Basin of Annapolis, - - - - -	22
Brier Island, - - - - -	96
General Observations, - - - - -	100
The cure of Fish; Mr. Edward Allison's Letter.	
Foreign Markets for Fish, - - - - -	104
Fish Barrels, - - - - -	108
Allowances, or Bounties, to American Fishing Vessels, - - - - -	109
The destruction of Fish on spawning grounds, - - - - -	111
Brush Weirs and Stake Nets, - - - - -	113
Summary, - - - - -	114
CATALOGUE OF FISHES, - - - - -	118

APPENDIX.

No. 1. Commission from His Excellency Sir John Harvey, - - - - -	160
2. Copy of Circular Letter of Inquiry, - - - - -	161
3. Letter from Cochran Craig, J. P., - - - - -	162
4. Letter from Captain Daniel McLaughlin, - - - - -	165
5. Regulations for Shad Fishery in Cumberland, Nova Scotia, - - - - -	166
6. Letter on the Fisheries from Hon. John E. Fairbanks, - - - - -	167
7. Extract of Despatch from Lord Stanley, dated 17th Sept., 1845, relative to Foreigners fishing in the Bay of Fundy, preceded by a note of circumstances which led to its transmission, - - - - -	173

REPORT

UPON

THE FISHERIES OF THE BAY OF FUNDY.

THERE is greater variety in the Fisheries of the Bay of Fundy than in those of the Gulf of St. Lawrence; and owing to their peculiar character, and a variety of local circumstances, they are prosecuted, in several respects, in modes which give to them unusual interest.

The character of the Bay itself is very peculiar. Its shores on both sides are rocky and abrupt, while near its head (divided into two separate basins) the tide, pressed in and confined within diminished limits, rushes with much violence and "hot haste" over extensive and wide-spreading mud-flats, and rises perpendicularly sixty feet or more.

It is asserted by geologists, that the Bay of Fundy has been scooped out by the powerful action of the Gulf Stream, which, carrying off the softer and more friable rocks that anciently filled its basin, has been checked in its ravages by the stern and unyielding cliffs of primary rock which now constitute its iron bound shores, and frown down upon its rushing waters.

A modern writer, describing the supposed formation of the Bay, says—"A vast and uninterrupted body of water, impelled by the trade wind from the Coast of Africa to the American Continent, strikes the Nova Scotia shore between 44° and 45° north latitude, with a force almost adequate to its total annihilation. A barrier of fifteen miles only in width, between the Atlantic Ocean and Gulf of St. Lawrence, seems to have escaped such a catastrophe—while a space of one hundred miles in length, and upwards of forty in breadth, has been swallowed up in the vortex, which, rolling its tremendous tides, of sixty and seventy feet in perpendicular height, up the beds of the adjoining rivers, has converted them into inland seas."

Such being the character of this Bay and its extraordinary tides, it may readily be supposed, that its varied Fisheries are influenced by local position arising from the greater sweep or indentation of the coast in particular places, and the position of headlands, islands, and the mouths of rivers,—all tending to

increase or diminish the rush of the tide, thus influencing the course of the great bodies of fish which frequent the Bay during each season, while affording to each some especial or favorite place of resort where food is found in abundance, or in which its spawn may be deposited in such manner as will best tend to the propagation of the species.

In order, therefore, to a comprehensive view of the Fisheries of the Bay of Fundy, it will be necessary, in the outset, to describe the various Fisheries, in their several localities. To do this with precision, and in a manner readily understood, the Northern, or New Brunswick side of the Bay of Fundy, commencing with Grand Manan, will be first noticed; after which, the Southern, or Nova Scotia side of the Bay, and its Fisheries, will be described in their order, from the eastern extremity, or head of the Bay, to Brier Island.

THE NEW BRUNSWICK SHORE.

GRAND MANAN.

This Island is in shape an irregular oval, the extreme length being nearly twenty miles, and greatest breadth about eight miles. Its general trend is from south west to north east, like the neighbouring coast of the mainland, from which it is separated by a passage about fourteen miles in width. The western shore of the Island, throughout nearly its entire length, presents a succession of lofty mural precipices, with few and limited beaches, and deep water in immediate proximity—without shelter even for boats, except at Dark Harbour, which is more particularly noticed hereafter. From the western shore, the land has a gradual slope to the eastern side of the Island, which has many indentations, although destitute of harbours that are secure against easterly or southerly gales.

The principal Fisheries of this Island, are those for Cod, Pollack, Hake, and Herring; and the mode of conducting these Fisheries, and curing the fish taken, will be described from information obtained at the several localities which were visited.

CAMERON'S COVE.—This is a narrow cove at the northern extremity of the Island, to the southward of a curiously projecting spur of rocks, called the "Swallow's Tail," which

separates it from Whale Cove. At this place, Mr. J. B. Pettes, an American citizen, has a neat fishing establishment, and a store for retailing merchandize and groceries. It is alleged, that he manages to transact a profitable business, without himself entering into the fishery, by purchasing green fish from the fishermen, and curing them on his own premises.

On the 28th August last, the writer visited Cameron's Cove. At that period, the Hake (*Phycis Americanus*) were in full season. On a bank about two miles from Cameron's Cove, extending from the Swallow's Tail to a small island called "Long Island," the Hake were taken in abundance in 28 fathoms water, by fishing during the night, at which time this fish is on the feed, and takes bait greedily. At day-break, the fishing boats return to the shore, when the fish are thrown out upon the beach with a pitchfork. Soon after sunrise, the newly-caught Hake were observed by the writer lying on the gravel beach, sweltering under the heat. There were no splitting tables, as in a well-conducted establishment, but the fishermen set up pieces of board upon the open beach in a temporary manner, on which the fish were split; they could not be said to be cleaned, as no water was used in the operation. The heads and entrails were separated from the bodies of the fish, which, being split in a clumsy manner, with uncommonly bad knives, were thrown down upon the gravel; thence they were carried off on handbarrows, upon which they were tossed in a heap, three or four at a time, with pitchforks. From the barrows the fish were pitchforked into the scale to be weighed; from the scale they were again pitchforked upon the barrows; and being carried off to the pickling casks, were once more pitchforked into the pickle; by this time the fish were perforated in all directions, and looked little better than a mass of blood and dirt. The fish which were drying on the flakes were covered with scales on the inside, or split portion of the fish, which had a most disagreeable appearance.

The fishermen here, stated, that during the previous night, a Yankee Schooner, called the "John Drake, of Lubec," had anchored on the Hake-ground, not more than a mile from the extremity of the Swallow's Tail, and being provided with abundance of bait and a numerous crew, had soon attracted all the fish about her. The fishermen had gathered around the schooner in their boats, and desired the Skipper to move off; on his refusal, they pulled towards the shore to bring off an additional force with fire arms, when the Skipper lifted his anchor and made sail. The fishermen then returned to their

ground, and had good fishing during the night. They complained that the large American Schooners frequently came in this manner upon their ground, and broke up the fishing, if they were not strong enough to drive them away.

DOGGETT'S COVE.—This is an open beach, west of Cameron's Cove, where Mr. Nathaniel Doggett has a curing establishment. When this place was visited, the fishermen were engaged in splitting Hake, in the rude and dirty manner already described. Mr. Doggett stated that Hake were never washed after being split, but were immediately put in pickle, in all their blood and dirt. In this pickle the fish remain 24 hours; then being taken out and washed with it, they were put in another pickle, in which they remained eight days. At the end of that time, they were put on the flakes to dry, and if the weather was good, they would cure in three days. The fish are not put into pile to sweat, after being dried on the flakes, but are at once removed into store, and then considered fit to be sent to the markets of the United States or the West Indies.

The pickle for Hake is made of exceeding strength, a bushel of salt being used for each quintal of fish; every effort appears to be used to make the fish weigh as heavily, and render them as salt as possible; the fish are not washed, lest the removal of the blood and slime should detract from their weight.

Mr. Doggett described the mode of curing Cod at Grand Manan. He said, that after being split, the Cod are washed in sea-water, and salted in hogsheads, in which they lay four or five days in pickle which they make themselves. They are then taken out, and drained twenty-four hours in *kinch*, or flat piles, after which they are placed on the flakes. In good weather, they cure in six or eight days; in general they are not sweated in pile, but are at once put in the store.

Pollack are cured in the same manner as Cod. Haddock are cured the same as Hake, except that they are put in *kinch*, to drain for two or three days, before being put on the flakes. In salting Cod and Pollack, half-a-bushel of salt only, to the quintal, is used.

FLAGG'S COVE.—In this Cove, there is a wharf or break-water, which gives some shelter to small craft; but the whole line of Long Island Bay, in which these coves are situate, is greatly exposed in easterly gales, when a tremendous sea comes tumbling in.

Mr. Lorenzo Drake and Mr. John A. Hartt have each stations here, at which they purchase green fish for curing. Cod, Pollack, and Hake, fresh from the knife, are taken at 262lbs. the quintal; when pickle-salted, they are taken at 224lbs for the quintal. When these establishments were visited, they were taking in Cod at ten shillings per quintal, and scale fish at five shillings per quintal, payable in merchandize. The Pollack were said to be of smaller size than formerly, one hundred of them only making two quintals of dry fish.

In the evening the writer observed, in this cove, eight boats with torches, "driving" small Herrings for bait. An American fishing-boat from a vessel in the offing, came to the shore, and having procured material for torches, commenced "driving" with the others. Mr. Hartt stated, that on the 4th July last, there were about twenty American fishing schooners at anchor in Long Island Bay, and while they were engaged in firing salutes in honor of the day, H. M. Sloop "Sappho," suddenly rounded the Northern head, when they all weighed anchor, in great haste, and stood out to sea. The "Sappho" having passed along the coast to the southern end of the Island, these vessels returned to their anchorage in the afternoon, and finished firing their salutes.

It was stated here, that five American vessels fished in this Bay, at about a mile from the land, during all the last winter. The fishermen of Grand Manan complained of these vessels, which were numerous, manned, and occupied the best ground, to the exclusion and injury of the fishermen residing on the shores.

Mr. Hartt said, there was no inspection of fish whatever at Grand Manan, or any pretence of inspection. Every man cured and packed his fish as he pleased; and he mentioned as among the evils flowing from this state of things, that he had purchased, in a previous season, several barrels of Herrings, put up near the Southern Head, on examining which, he found that many of the fish were not gibbed, others had become rotten before salting, and the contents of the barrels were quite worthless.

LONG ISLAND.—This Island lies in front of the Bay of the same name. Mr. Ingersoll is the only resident settler; there is one clearing of no great extent—the rest of the Island is in wood.

On the Island there were forty fishermen encamped, having among them thirteen boats. These men were from Nova Scotia,

and it was said that they came over every year from Brier Island, and its vicinity, and remained during the fishing season. The fish they catch they sell in a green state to the Grand Manan dealers, who furnish them with the requisite supplies.

It was stated here, that during the preceding week, one boat, with two men only, had taken ten quintals of Hake for two nights successively. It was said that the Hake fishing was gradually falling off here; but that the Pollack fishing was better than it had been for twenty years.

BENCRAFT'S POINT.—There are three large brush weirs near this Point, and a fourth in course of erection. They are intended to take small Herrings for smoking, but the past season very few were taken. These weirs so fill up the channel, that it is somewhat difficult to navigate among them.

HIGH DUCK ISLAND.—The fishing establishment on this small Island, belongs to Wilford Fisher, Esquire. There are weirs for taking Herring in connection with this establishment, which consists of a warehouse for goods, two fish stores, and two large smoke houses. These smoke houses, like all others which were observed at Grand Manan, were far too low, and insufficiently ventilated. The fires were made too near the fish, which thus became heated and seriously injured.

When this Island was visited, there were a number of boats at the landing, from which Hake were being delivered; these were pitchforked about in the same reckless and extraordinary manner as at Cameron's Cove. There seemed to be the same desire to make the fish weigh heavy, no matter by what means the extra weight was gained.

At the close of the fishing season, Mr. Fisher (who resides at Eastport) stated, that the catch of Herrings at Duck Island weirs only amounted to 175 boxes; in 1849 it amounted to 5000 boxes.

GULL COVE.—This pretty little Cove is in Whitehead Island, which lies to the southward of Grand Manan, at no great distance from it. There were a number of small fishing schooners in this Cove, at anchor, waiting for the tide. Among them was one American vessel, the "Glide," which appeared to fish with the British vessels without observation or hinderance.

These vessels were engaged in fishing for Pollack, on the "rips" or "rippings" off Grand Manan. These "rips" are formed by strong currents and the conflict of tides, in which the lively Pollack delight to play, as there they find abun-

om Brier
ng season.
he Grand
supplies.
one boat,
e for two
shing was
shing was

ush weirs
They are
past sea-
e channel,

t on this
There are
olishment,
ores, and
all others
low, and
near the

r of boats
ed; these
ordinary
the same
at means

resides at
ck Island
ounted to

ad Island,
great dis-
schooners
ong them
ed to fish
rance.

k, on the
rips" are
in which
ad abun-

dance of small Herrings for food. For this description of fishing, the vessels are kept under easy sail, the lines being attached to poles of about seven feet in length, which project from the sides of the vessel. A round bright lead is used, about seven inches in length, weighing from half-a-pound to a pound and a half; the bait is a piece cut from the under, or bright part of the Pollack, which is called a "last;" this being kept in brisk motion by the sailing of the vessel, closely resembles a living fish darting through the water, and is eagerly chased by the Pollack. The fishers often take twenty Pollack with a single "last," it being a very tough bait.

On Whitehead Island, immense numbers of the Herring, or Silvery Gull (*Larus Argentatus*) build their nests on trees, and there rear their young. As the fishermen rob these nests of the eggs as often as possible, the birds continue to breed all the season, and when this Island was visited at the end of August, there were numbers of young birds on the nests unable to fly. The Herring Gull is intimately connected with the Herring fishing, its presence generally denoting the course of the shoals of fish upon which it preys; it is therefore closely observed by the fishermen, who draw from its motions tolerably correct conclusions as to the presence of fish, and their numbers.

Whitehead Island was granted to the late Wm. Frankland, who resided upon it, until his death a few years since. The celebrated naturalist, J. J. Audubon, visited this Island in the American Revenue Cutter "Swiftsure," and landed at Mr. Frankland's in Gull Cove, on the 22d May, 1833. In his great work on the Birds of America, vol. 7, page 163, Audubon thus speaks of his visit, and of the Herring Gulls:—

"I was greatly surprised to see the nests placed on the bushes, some near the top, others about the middle, or on the lower part of the trees, while at the same time, there were many on the ground. It is true I had been informed of this by our captain; but I had almost believed that on arriving at the spot I should find the birds not to be Gulls. My doubts however were now dispelled, and I was delighted to see how strangely nature had provided them with the means of securing their eggs and young from their arch-enemy, man. My delight was greatly increased, on being afterwards informed by Mr. Frankland, that the strange habit in question, had been acquired by these Gulls within his recollection, for, said he—When I first came here, many years ago, they all built their nests on the moss, and in open ground; but as my sons and the fishermen collected most of their eggs, and sadly annoyed the poor things, the old ones gradually began to put their nests on the trees, in the thickest parts of the woods. The youngest birds however, still have some on the ground, and on the whole are becoming less wild, since I have forbidden strangers to rob their nests, for, gentlemen, you are the only persons out of my family, that have fired a gun at Whitehead Island for several years; and I dare say you will not commit any greater havoc among them, than is necessary; and to that you are welcome."

"I was much pleased with the humanity of our host, and requested him to let me know when all the Gulls, or the greater part of them, should abandon the trees and resume their former mode of building on the ground, which he promised to do. But I afterwards found this was not likely to happen, because on some other Islands not far distant, to which the fishermen and eggers have free access, these Gulls breed altogether on the trees, even when their eggs and young are regularly removed every year, so that their original habits have been entirely given up. My opinion, that after being thus molested for some time longer,

they may resort to the inaccessible shelves of the rocks of these Islands, was strengthened by Mr. Frankland's informing me, that many pairs had already taken refuge in such places, where they bred in perfect security."

"Some of the nests which I saw were placed at a height of more than forty feet on the trees; others seen in the thickest part of the woods were eight or ten feet from the ground, and were placed close to the main stem, so as to be with difficulty observed. It was truly curious to see the broad-winged birds make their way to and from them, in these secluded retreats."

At Gull Cove the writer engaged Mr. William Frankland, the son of the grantee of the Island, whom Audubon mentions, and who occupies his father's residence, to pilot the hooker among the reefs and crooked channels which are numerous in this vicinity. In sailing from Gull Cove to Grand Harbour, thousands of gulls were observed returning at nightfall, to their nests on lofty spruce trees, in a thick wood on Ross' Island. It was stated by Mr. Frankland, that since Audubon's visit, to which he alluded, the gulls had given up entirely their natural habit of building nests upon the ground, and had taken wholly to the trees, in consequence of their constant disturbance by the fishermen, and the robbing of their eggs.

The flight of the Herring Gull is as strong as that of the great Black-backed Gull, but more buoyant, as well as graceful. Their food consists principally of Herrings, of which they destroy great numbers, following the shoals, and indicating their course. They also feed on other fishes of small size, as well as shrimps and crabs. The shores of the Islands on which they breed, are covered with multitudes of sea-urchins, having short greenish spines, which give them the appearance of a ball of moss. At low water, the Herring Gulls frequently devour these animals, thrusting their bill into the shell, and sucking its contents.

GRAND HARBOUR.—While piloting the hooker into this Harbour, Mr. Frankland pointed out places at its entrance, where it was quite customary in former times for a boat, with two men, to take seven or eight quintals of Cod in a day. At present, there is no line fishing at this place, the fish not coming in, owing to the shoals of small Herring, on which they feed, being broken up and destroyed by the brush weirs.

At this place, Cochran Craig, Esq., J. P., furnished the numbers of boats and men employed in the fishery between this Harbour and the Southern head, which will be found in the Table hereafter; and a letter which Mr. Craig subsequently addressed to the writer, in answer to the Fishery Circular, will be found in the Appendix.

The upper part of Grand Harbour is well sheltered, but it

is almost entirely dry at low water. It abounds with Lobsters, which during the season, may be taken with a gaff, in almost any quantity. The gaff is merely a cod-hook, without the barb, attached to a light pole, six feet in length. As many as were required for the hooker were quickly taken in this way, in two to four feet water; the places resorted to by Lobsters were easily known, by the holes made by them in the flats in digging for the clams on which they feed. There is great abundance of clams in these flats, and it was stated, that at low spring tides they could be procured of very large size.

A large brook, the largest in Grand Manan, falls into the head of this Harbour; during the winter great quantities of Tom-cod (*morrhua pruinosa*) are taken from it, but no Smelts. It was said that Smelts are not found about this Island, and that Trouts are very scarce and small, rarely exceeding a quarter of a pound in weight.

THE SOUTHERN HEAD.—Mr. Frankland having given the necessary sailing directions, left the hooker at Grand Harbour, from which she was beat down to the Southern Head, against a strong south-wester. Upon the spawning ground within the Head, forty eight fishing vessels were found at anchor, and in the midst of them, the Revenue Cutter "Phantom," under the command of Captain Dudne.

Although the season was far advanced, (29th August) yet the Herring-fishing had not fairly commenced, the fish not having struck in. Subsequently, some were taken, but on the whole, the fishery was a decided failure, not more than one third of the usual quantity having been taken.

At Wilcox Cove, about two miles to the eastward of the Head, there is said to be a small sand bank upon which the Herrings rush to deposit their spawn. They often congregate in such numbers as to overspread it completely, and thousands of fish are thus compelled to drop their spawn on the very rough, rocky bottom outside the bank. The spawning season is from the 15th July to the 15th September, after which period it is said, very good Herrings are often taken, with a mesh of $2\frac{1}{4}$ inches.

The fishermen set their nets from Wilcox' Point, all around the Head, to Bradford's Cove on the western side of the Island, a distance of nearly four miles. The nets are set close to the shore, in about ten fathoms water; each net is from 20 to 30 fathoms in length, about 160 meshes deep—mesh from $2\frac{1}{4}$ to 3 inches, on the average about $2\frac{1}{4}$ inches.

The Southern Head rises almost perpendicularly from the water 200 feet or more; the settler on its summit is named M'Donald, who thus occupies the extreme south western tip of New Brunswick, as Louis Gautier (mentioned in the Report of last year) possesses its north eastern extremity, at Point Miscou, on a low sand plain, elevated only a few feet above the sea. The habitations of both are almost equally miserable, although M'Donald has the advantage of a greater quantity of land fit for cultivation, and enjoys a milder climate, there being a difference of nearly $3\frac{1}{2}$ degrees of latitude between the two locations.

Andrew Wilcox, who lives to the eastward of M'Donald, at much less elevation, has a farm under some degree of cultivation; although the land is gravelly and poor, his new potatoes, green peas, and other vegetables, were excellent. Andrew Wilcox stated, that he had lived at this place three years, but was not a fisherman; he is on good terms with the fishermen who resort here annually, and who are good customers for the produce of his farm. The other settlers in the vicinity, not exceeding in all a dozen families, are at open war with the non-residents who come here to fish; these, he said, had borne the annoyances of the Islanders very patiently, and on the whole, had behaved exceedingly well. It was stated subsequently by another party, that Andrew Wilcox allowed the fishermen to land from their schooners and occupy a grass plat in front of his house, for the purpose of mending their nets, by which he had obtained the ill-will of his neighbours, who had subjected him to some vexatious annoyances.

At night fall, the fishermen set their nets by attaching them to the buoys, ropes, and moorings, which are put down at the beginning of the season and are not taken up until its close. At day light next morning (30th August) when the nets were lifted, it was found that in all that immense number of nets, extending more than three miles, one net only contained fish; but, from that net sixteen barrels of Herrings were taken. Most of the nets were set with their upper edge at the surface of the water, but some few were set with five fathoms of strap from the cork line, consequently the lower edge, or lead line, was very near, or actually rested upon the bottom; yet all were equally unsuccessful. Many of the nets were thickly covered with Herring spawn, and in cleaning them, the decks of some of the vessels were covered ankle deep. It was said to be no unusual circumstance for the net rope, (9 thread ratline) to be found in the morning as thick as a man's arm with the spawn,

while a vessel's cable would be increased to the size of a five gallon keg.

It having been intimated that the writer was anxious to see the settlers at this place, Daniel M'Laughlin (Captain of Militia) with Messrs. Harvey, Worcester, Matthews, M'Donald, and Dyer Wilcox, came on board the hooker. They complained of the number of vessels which came upon the fishing ground, considering them as encroaching upon, and usurping a privilege which ought to belong to the settlers in that vicinity, exclusively. They pointed out among the fleet at anchor, a large schooner called the "Mountaineer," belonging to Saint John, which they said had twelve men, with four boats and thirty six nets, more than all the inhabitants could muster for eight miles. The fishery, they said, was continually falling off, and would eventually be destroyed; from the reckless manner in which it was prosecuted, and the place being over-fished. As the law formerly stood, each vessel was restricted to 30 fathoms of net, and a boat to 15 fathoms; Herrings were then abundant, and so were Cod, close to the shore, where none are taken now. As the Herring come all at once upon the spawning ground, almost in solid bodies, they are taken in such quantities that the fishermen are unable to cure them as fast as caught; many are put up without being gibbed or washed, after putrefaction has commenced, while quantities of rotten fish are thrown overboard, to the great detriment of the fishery, and its permanent injury.

It was stated to these men, that the fishermen in the schooners complained of their nets being frequently cut and destroyed, and often carried off altogether. They denied most positively being in any manner concerned in these outrages, which they said were committed by fishermen who came there in vessels, without any outfit but "a rope and a stone," but who departed with a full fare of fish, and a good complement of nets. As a remedy for this, they suggested the appointment of an Inspector who should examine each vessel as it came upon the ground, and mark and register its nets; thus the vessels without an outfit would be known, and prevented from plundering those well fitted. The Inspector also should see that the nets were set at proper intervals, and not too many of them in a given space; and that he should have power to prevent nets being set in the day time, as nothing tends more to break up and destroy Herring fishing. They pointed out several gangs of nets, which, at the moment, were set for the day, the cork line about two fathoms below the surface; as the sun was very

bright, and the water clear, these nets were plainly to be seen. The nets set on Saturday night were often allowed to remain in the water until Monday morning, which they said was highly injurious, as it undoubtedly is, to the Herring fishery.

In September, the number of fishing vessels at the Southern head, amounted to one hundred or more; in 1849, the total number was 120. The presence of the Revenue Cutter alone prevented a scene of disorder and confusion, as well as great destruction of nets and other valuable property. After the nets were set for the night, all the fishing boats were ordered to return to the vessels to which they belonged; while the boats of the Cutter rowed guard during the night, to prevent persons from injuring or stealing the nets. Yet, notwithstanding these precautions, and the exercise of great vigilance, nets were continually destroyed or stolen, especially during dark and windy nights, when the depredators could not be seen or heard. It was said, that boats with old scythes attached to their bottoms had been rowed swiftly among the nets, by which great damage had been done.

While the writer was at the Southern Head, the skipper of a fishing schooner applied to Captain Dudne of the Cutter, for a warrant to take some nets then on the ground, which had been stolen from him there the previous year. Captain Dudne, not being invested with Magisterial authority, could not grant a warrant; but he sent for the party who had the stolen nets in possession, and advised him to give them up, for fear of consequences—but it was not done.

The observations on this fishery will be found in the summing up of this Report; and a letter from Captain M'Laughlin, expressing the views of himself and his neighbours in relation to it, is in the Appendix.

Captain M'Laughlin having stated, that he was thoroughly acquainted with the mode of fishing for Mackerel, so successfully practised by the Americans in the Gulf of St. Lawrence and Bay of Chaleur, he was requested to furnish his description of it, which he very kindly has done, as follows:—

“ The vessel starts for the fishing ground with the trail line out; if it catch a Mackerel, the vessel is hove to, on the larboard side. The baiter stands amidship, with the bait-box outside the rail; with a tin-pint nailed to a long handle he begins throwing out bait, while every man stands to his berth. If they find Mackerel, the foresail is taken in, and the main-sail hauled out with a boom-tackle; then the fishing begins.

You haul the line through the left hand with the right, and not hand-over-hand, as you do for cod ; if you do, you are sure to lose your fish after it breaks water. When your fish is near coming in, you must take it, by leaning over the rail, to prevent its striking against the side of the vessel, catching the line quick, close to the fish, with the right hand, unhooking it, with a sling, into the barrel—with the same motion, the jig goes out in a line parallel with your own berth. You must be quick in case a Mackerel takes your other line, and entangles your comrades. You fish with two lines, most commonly seven fathoms long—that is, in heavy weather. In calm weather, the jigs are lighter than when it blows hard ; there is an eye spliced at the end of the line, so that the jig may be shifted at pleasure. There are two other lines used, called fly-lines, with smaller hooks ; when Mackerel are shy in biting, they will often take these—the fly-lines are only three fathoms long. Very often the Mackerel stop biting ; then the fishermen take the gaffs, and work with these until the fish disappear. The gaffs must not be used while the lines are out, as they entangle them and cause great trouble. No man must leave the rail to pick up fish, which miss his barrel and fall on the deck, until the fishing is over."

"You must take care to dress your Mackerel quickly, as they are a fish that is easily tainted. When you stop fishing, the captain or mate counts the fish, and notes down in the fish-book what each man has caught. Then the crew goes to dressing and splitting ; the splitter has a mitten on the left hand, to keep the fish steady to the knife. Two men gib the fish with mittens on, to prevent the bones scratching their hands. One man hands up fish to the splitter, while the rest of the crew draw water, to fill the barrels in which the fish are put to soak. The fish are put in the soak-barrels back up ; in a short time, the water is shifted, and the fish washed out for salting. The salter sprinkles a handfull of salt in the bottom of the barrel ; then takes the fish in his right hand, rolls them in salt, and places them skin down in the barrel, until he comes to the top layer, which he lays skin up, covering the top well with salt."

"Herring or small Mackerel are the best bait that can be used. These are ground in a bait-mill, by the watch at night ; if the vessel has no bait-mill, the fish are chopped up with a hatchet, or scalded with boiling water, in a barrel or tub."

"When there is a fleet of Mackerel vessels fishing, they often lee-bow each other—that is, run ahead of one another, and so

draw the fish toward the shore. There they anchor, and put springs on their cables, which is done by taking a strap outside the house-hole, fastening it to the cable, then hooking it to a tackle, and hauling it aft, at the same time paying out the cable. This brings the vessel broadside to the wind, or current, and the fishing goes on. Boats may fish with the same success as vessels, when moored in this manner."

"This is the whole system of Mackerel fishing, British or American, and requires nothing but activity and energy. These observations are the result of ten years experience in British and American vessels."

DARK HARBOUR.—In rounding Southern Head, it was observed, that the water for nearly half a mile from the shore, was dotted with buoys, casks, and floats, of every description, while below the surface, there appeared a complete entanglement of ropes and lines, so numerous were the moorings. Pollack of large size were here taken in pairs, as fast as they could be hauled in; but after passing the isolated rock on the western shore, called "Statue Rock," or "The Old Maid," there was no more fishing. The cliffs rise from the sea perpendicularly, to the height of several hundred feet; the rock is trap in columnar form; and these stern and lofty cliffs extend about 12 miles along the shore, without the least shelter for boats, and with scarcely a landing place, until Dark Harbour is reached. This is so singular a place as to require especial notice.

Dark Harbour is a salt water lake, about one mile and a quarter in length, and half a mile in width; the water is from five to nine fathoms in depth, the latter being the prevailing depth throughout, except near the shores. It is separated from the Bay of Fundy by a sea-wall of stones and gravel, about 400 feet wide, which has an easy slope seaward, but is quite steep on the inside, towards the Harbour. This curious and really beautiful sheet of water was entirely cut off from communication with the sea, until 1846, when a channel was cut, through the sea-wall, of sufficient width to admit large vessels. In consequence of this admission of the tide, the water within the harbour was raised permanently eight feet, and very many trees, growing on the landward side, were killed by the rise of the sea water upon their trunks.

On the western side of the channel into Dark Harbour, there is a breakwater of timber and stone, to break the force of the sea thrown in by the north westerly gales, and prevent the channel from filling up. When the rising tide attains a

sufficient height, it rushes through the channel into the harbour, with a steady roar until high-water : and on the ebb, rushes out with equal noise and turbulence.

On the landward side of the harbour, there are about fifty acres of cleared land ; the soil is good, but somewhat stony. On the top of the hill, which slopes rather steeply to the water, there is some good land, the soil a deep loam. The settlers are John Sinclair, who has resided here 25 years ; John Urquhart, 10 years and upwards ; and Duncan Anderson, a resident of 4 years. There are also the son and son-in-law of Urquhart, who live on the eastern side of the harbour ; Urquhart himself lives upon the glebe lot on the western side. Duncan Anderson is very intelligent, and furnished much interesting information. He stated that the depth of water in the channel at high water, varies from 8 to 13 feet, according to neap or spring tides. There is considerable outfall on the ebb, but fishing boats pass out safely, even when there is 8 feet fall ; at low water there is only 2 feet in the channel. During the season of 1849, the settlers caught 100 barrels of fine Herrings within the harbour ; but fishing vessels enter the harbour at nightfall, shoot their nets, and leave again early in the morning—it is not known what quantities they take.

Anderson stated, that a Herring net, such as he used, of 20 fathoms in length, $2\frac{1}{2}$ inch mesh, and 160 meshes deep, costs £3—made up thus—Twine, 20s. ; netting, 20s. ; lead, 5s. ; rope, 10s. ; floats, &c., 5s.—total, £3. He said there was great abundance of Herrings along the west side of the Island, but nets were not set for them, on account of the numbers of Dog Fish, which cut up the fish, and destroyed the nets. The want of boat-shelter and landing-places has, however, more to do with this neglect, than the ravages of the Dog Fish. Anderson said, that men without means should not settle here ; but men possessing some property would do well enough. Inside the harbour, Rock Cod and small Pollack are always to be caught ; and sometimes these fish of large size are abundant.

The channel at low water was examined ; the bottom appeared to consist of large boulder stones, thickly covered with kelp. The breakwater requires to be carried further out, in order to protect the channel effectually. Anderson said the necessary extension could be built for £100, if notice was given the previous winter, so that logs and timber could be hauled out, while the snow was on the ground. He was employed in cutting the channel and building the breakwater, and thought himself qualified to judge of the expense.

It would be of great advantage to the valuable fisheries on the west side of Grand Manan, if the channel into Dark Harbour were deepened, so as to admit vessels with the flowing tide; and of still greater importance to the coasting trade, as well as to loaded timber ships, or other vessels with cargo, if the entrance was so improved, that Dark Harbour might be a sure and certain harbour of refuge at all times. Once within the sea-wall, vessels are as completely land-locked, and may ride in as perfect safety as if in an inland lake, however violently the tempest may rage without; and upon such a precipitous and iron bound shore as the western side of Grand Manan, with nothing but certain destruction to the tempest-tossed mariner who may be cast upon it, this sole place of safety should by all means, and under every consideration of humanity, be rendered easily accessible at all seasons, either by day or by night, and readily found. A few hundred pounds might well be spent in giving perfect access to this most singular and exceedingly safe harbour, within whose lofty sea-wall, accumulated by the mighty waves of many centuries, the largest ships may lay afloat within a stone's cast of the shore, riding safely with the smallest hawser, while a fearful surf thunders upon the beach without, apparently with sufficient roar, and uncontrolled violence, to shake the Island to its lowermost foundation.

The advantages of Dark Harbour, as a place of refuge, can scarcely be appreciated by those not acquainted with its unusual and extraordinary character and position. The preservation of a single life is of infinitely greater account, than all it would cost New Brunswick to render Dark Harbour easily accessible, not merely by fishing vessels, but by ships of the largest class, to which, when attained, it would afford the most perfect safety. The cause of humanity urges the expenditure, independently of the strong arguments which might be adduced with reference to the preservation of valuable ships, and much costly merchandize.

MONEY COVE.—This Cove is some two or three miles east of Dark Harbour; a brook flows down a very narrow ravine between two massive cliffs, which rise on either side to the estimated height of 800 feet or more. A slight indentation of the coast affords space for a small gravel beach at the base of the cliffs; and here Mr. John A. Hartt, during the past season, erected a brush weir, which cost £350. In this weir were taken several hundred barrels of Herrings of good size and in

fine condition differing materially, both as to size and quality, from those taken near the Southern Head, and evidently another variety of fish. These Herrings were only taken on the Spring tides, at the full and change of the moon, as then the fish were swept sufficiently near to the shore to be caught in the weir.

The bottom of this weir is composed of framed timber of large size, sunk in about six feet water at low tide, and ballasted with large stones of a ton or more in weight. Above the strong frame work which forms the bottom of the weir, there is the usual light wicker-work of poles with twigs interlaced, quite sufficient to retain the timid Herrings, but altogether unfit to retain other small fish of bolder character. The Herrings will not go out of a weir unless the opening is of large size, while all other fish will dash or struggle through any opening sufficient for their passage, even with much squeezing.

Money Cove gains its name from an ancient tradition, that the noted rover, Captain Kyd, buried two hogsheads of treasure at this unfrequented place; and many credulous persons have expended much time and labour in digging for the pirate's gold, in the ravine, near the roots of two old French willows, said to have been planted there by Kyd himself as a guide to his buried wealth. The ground appears to have been thoroughly turned up along the ravine wherever soil was found; but the much coveted treasure has not yet been discovered.

LONG'S EDDY.—Between Money Cove and Long's Eddy, is Indian Beach, so called from its being the usual camping place of the Indians, who resort there during the season for Porpoise shooting. There were two canoes here, with four Indians, and the pelts of several Porpoises just taken off, were observed hanging up, previously to being boiled for their oil.

Long's Eddy is formed by a long beach and spit of gravel, which stretches to the westward of Northern Head. Within the eddy there was admirable fishing for small Rock Cod, with which the water seemed perfectly alive.

There is a clearing at this place, and some land under cultivation, apparently of fair quality. Mr. Cronk has been settled here many years, and his two sons are settled near him. They have three boats, and take 500 quintals of fish annually. They fish at half a mile, to a mile only, from the shore, and follow their business every day in the year that the weather permits, when bait can be procured.

When the writer landed at this place, soon after sunrise, the

young Cronks had just taken up the Herring nets, which had been set during the night. There were only a few dozens of Herrings in the nets, several of which were damaged by the voracious Dog Fish, who had apparently carried off many fish entirely. Besides Herrings, the nets had caught six Pollack, one Rock Cod, three Silver Hake (*merlucius albidus*), and one Mackerel ; none of these were injured by the Dog Fish.

Several Cod of the largest size were shown by Mr. Cronk, as also many fine Pollack recently taken. This situation is apparently a very good one for prosecuting "line-fishing," which might here be carried on to a much greater extent than at present, fish of large size and fine quality being continually found at very little distance from the beach.

WHALE COVE.—Between Long's Eddy and this Cove are the lofty mural cliffs of the Northern Head, presenting a bold front to the violent gales from north east which rush with fury down the Bay of Fundy, and offering stern resistance to the mighty waves that dash against them, with sullen and almost ceaseless roar.

The land about Whale Cove is lower than at almost any other part of Grand Manan, and appears to be merely a narrow neck connecting the Swallow's Tail with the Northern Head. There is but little shelter at Whale Cove, for when the wind is off shore, it sweeps with great force across the low land ; the hooker was forced twice out of the Cove, by heavy gusts, before an anchorage could be gained very close to the shore.

It was stated that the American vessels often ran into this cove in fine evenings, and set their Herring nets during the night, being off again at an early hour in the morning.

MEETING OF FISHERMEN.—In proceeding around Grand Manan, the writer saw many intelligent fishermen, who were anxious that some general meeting should take place to discuss matters. It was agreed that, as the most convenient time for such a meeting, it should take place on Saturday evening, (31st August) at the Central School House, near Winchester's. There the writer met about sixty fishermen, and explained to them the imperfections in their cure of Herrings, both pickled and smoked ; and the improper treatment and bad cure of their dried fish was also pointed out. They were told that they could not expect to obtain remunerating prices, or find steady markets for fish so badly cured as scarcely to be fit for exportation, and which certainly would not be allowed to be exported

s, which had
ew dozens of
aged by the
ff many fish
six Pollack,
(us), and one
g Fish.

Mr. Cronk,
situation is
ine-fishing,"
extent than
g continually

is Cove are
enting a bold
sh with fury
tance to the
and almost

almost any
erely a nar-
he Northern
for when the
he low land;
heavy gñsts,
to the shore.
ran into this
s during the
ning.

ound Grand
n, who were
ce to discuss
ent time for
ening, (31st
er's. There
ned to them
pickled and
ure of their
d that they
find steady
t for expor-
be exported

if a proper system of inspection were established. The great and wonderful increase in the Herring Fishery of Scotland, in consequence of the excellent regulations and rigid inspection there enforced, was made known; and the advance in prices which followed the adoption of improved curing after the Dutch mode, was also shown—an advance so great as to enable the Scotch Herrings to beat the Dutch Herrings out of the Continental markets, in spite of a heavy countervailing duty. The fishermen were told, that besides Foreign markets which might be opened under a better system of cure and inspection, there was in Canada an extensive demand for well cured fish, as also in the Western States bordering on the Great Lakes.

To this it was replied by the fishermen, that unless the system was general, it was useless for any one person to cure his fish better than his neighbour, as he would obtain no better prices, all the fish from each locality being classed together, and bearing one price, while that price was so low, as to afford no remuneration for additional labour, or greater care in curing.

The writer having collected the numbers and description of the boats and vessels engaged in the fisheries in his progress around the Island, submitted the list so obtained to the assembled fishermen, who made some corrections and additions, when the following return was declared to be as correct as could possibly be obtained:—

Return of the numbers of Boats, Vessels and Men, belonging to Grand Manan, engaged in the Fisheries, 31st August, 1850.

LOCALITIES.	No. of Boats.	No. of Men in Boats.	No. of Vessels.	Ton- nage of Vessels.	No. of Men in Vessels.	RECAPITULATION.
Cameron's Cove,	20	60	2	22	8	
Doggett's Cove,	6	18	1	11	4	
Drake's Cove, to Bencraft's Point,	20	60	4	20	12	
Woodward's Cove,	8	24	4	104	24	Fishing Boats, 94.
Long Island,	2	6	1	12	4	Men in same, 282.
Duck Islands,	4	12	2	16	7	Fishing Vessels, 24.
Nantucket Island,	2	6	..	..	..	Men in same, 112.
Kent's Island,	..	..	2	16	8	
Grand Harbour,	8	24	4	40	20	
Thence to Southern Head,	13	30	5	50	25	
Dark Harbour,	3	9	..	..	..	
Money Cove,	4	12	..	..	..	
Long's Eddy,	3	9	..	..	..	
Whale Cove,	4	12	..	..	..	
Total,	94	282	24	291	112	

The fishermen stated that the average length of the fishing boats in use at Grand Manan was 17 feet, and the usual

breadth of beam 6 feet ; five streaks on each side are of birch, the rest of the planks of pine. They build few cedar boats, as they are not strong enough for these rocky shores. Although short, these boats are burthensome ; but they are not fitted to go out to those banks where the best Cod-fishing is found, and cannot with safety venture any very great distance from the Island. On being asked why they did not build boats of greater length and larger size, it was answered that such boats would not do, where the shores were so rocky and greatly exposed, as the boats had to be hauled up altogether above the tide in stormy weather, or they would quickly be dashed to pieces by the ground-swell and heavy surf.

Some of the excellent Sheffield knives (made by John Algor) which are in common use in the Bay of Chaleur, for splitting and dressing fish, were shown to the meeting, and greatly approved ; it was resolved that such knives should be procured for another season, as also a supply of the long-shanked hake-hooks used by the Jersey fishermen, which are very superior, for that fishery.

It was stated, that certain places had been agreed upon by the fishermen as "gurry-grounds," or places where the offal of the fish could be deposited conveniently by fishing vessels, without injury to any description of fishery ; but the Americans were not included in this arrangement, and threw over their offal where they pleased. Many of the Grand Manan fishers did the same ; it was said that the "gurry-grounds" were less used last season than ever before, and thereby the fisheries of every kind were greatly injured. Besides the damage done to the line-fishing by throwing offal upon the fishing ground, great injury is inflicted by its being drifted into the Herring-weirs, which are then said to be "gurried," and will take no fish, for Herrings will not approach weirs when in that state. It was greatly desired by the fishermen, that some law should be enacted, by which fishing vessels could be compelled to throw their offal upon the "gurry-ground," under regulations and penalties that could be readily enforced.

It appeared that there were then twenty seven Herring-weirs at Grand Manan, and several others in course of erection. The fishermen agreed very well, and were quite unanimous upon all points concerning the fisheries, until the question of Herring-weirs came up for discussion ; then great differences of opinion were expressed, and an unpleasant altercation took place immediately. Mr. Coddington stated, that one-third of all the fish taken in the weirs were used for

manure; this was promptly denied by Mr. Guptill and Mr. Bencraft in the most positive manner. Mr. Bencraft stated, that from the catch of his weirs during the season of 1849, he put up 3000 boxes of Smoked Herrings, and 50 to 60 barrels Pickled Herrings; that as many barrels were used for bait; and during the whole season, less than 20 barrels were put upon the land, consisting altogether of small and broken fish. This statement was corroborated by Mr. Dakin, a man of very respectable appearance, who attended Bencraft's weirs; but it was altogether denied by persons present. The assertions deliberately made on one side, were denied in the most unqualified manner on the other, and angry words were freely used. In order to calm the increasing excitement, it was suggested, that as so great a difference of opinion existed, it would be better for both parties to put their several statements in writing. This was agreed to; the storm was allayed; and before the meeting separated, one of the persons present, whose name was not heard, expressed the satisfaction which was felt by the fishermen there assembled, with the conduct of the Government, in sending a person to enquire into their state and condition, and listen to their representations, as they were thereby convinced that they were not overlooked or altogether forgotten by the Executive.

GENERAL REMARKS.—Owing to the peculiar manner in which the people of Grand Manan conduct their fishing business, it is quite impossible to ascertain precisely what quantity of fish is taken, or what is the total value of the fisheries of the Island. No Duties whatever are paid by the inhabitants of Grand Manan; in fact, there is no person there authorized to receive Duties. The inhabitants take their badly cured fish to Eastport or Lubec, and there sell them at low prices, taking in return such articles as they need for home consumption. They pay no Duty on landing their fish in the United States, as there is a perfectly good understanding with the fishermen of Maine; who, in consideration of being permitted to fish within Treaty limits at Grand Manan, and go on shore to procure bait, wink at the importation of British fish from thence Duty free.

Practically, the people of Grand Manan enjoy perfect free trade; they buy what they require in the cheapest markets, and they can build and fit out fishing vessels at three-fourths the cost of American vessels of the same class. Yet, with all these advantages, the Island only owns twenty four vessels, the

largest of which is 45 tons, the next 20 tons, and all the rest under 20 tons; while the fishing boats only amount to 94 in all, less than half the number owned in the Parish of Caraqueet.

Nothing so greatly surprised the writer at Grand Manan, as the comparatively small number of fishing boats and vessels owned there, and the limited value of the fisheries conducted by the inhabitants. A dealer who has for some years been connected with the business of Grand Manan, estimated the value of the fisheries in 1849, as follows:—

Produce of weirs, - - - - -	£5,000
Cod, Pollack, Hake, Oil, & Pickled Herrings,	7,000

The estimate of the value of the produce of the weirs is believed to be too large, but the second estimate may be near the mark. The population of the Island is estimated at 2000 souls; and assuming the general value of the fisheries to be as above stated, it is just £6 per annum for each soul on the Island—a very small sum for a community so largely dependent upon the fisheries for subsistence.

The people of Grand Manan are active, industrious, and hard-working, capable of enduring great hardships and fatigue. The young men, from lack of employment at home, engage on board American fishing vessels; they get good wages, because they are active, hardy sailors, excellent fishermen, and admirable pilots for the Bay. The Americans say, “there is no better man on board a fishing vessel than a native of Grand Manan, if you take him away from his own Island.” That the people of Grand Manan conduct the admirable fisheries in their vicinity very inefficiently, and with but little profit, is undeniable; and that something may be done for their advancement, by judicious regulations, and a good system of inspection, is not to be disputed. But even then, the greatest difficulty will be untouched—and this is, the low state of education in the Island. The Schools of Grand Manan are very inefficient; and the people are not sufficiently taught, even in the first rudiments of learning, to compete with their American neighbours, who are more acute and intelligent, simply from being better educated. The lack of learning is one of the greatest evils of Grand Manan; if the people there were better taught, and possessed greater knowledge of the world, they would readily perceive the numerous advantages of their position, and quickly avail themselves of the profits to be derived from it.

CAMPO BELLO.

The inhabitants of this fine Island prosecute the fisheries with great diligence, not only in their own immediate vicinity, but also by sending their vessels to distant places to procure fares. The fisheries close to Campo Bello, are those for Cod, Pollack, Haddock, and Hake, by line-fishing, on the "slacks" of the tide just before high and low water, and at other times, in the coves, eddies and passages where the tide does not set too strong. The common Herring (*clupea elongata*) of small size for smoking, is taken in standing weirs of brush. A larger description of fish are taken chiefly in nets, called "Quoddy Herrings," but which are believed to be the species of Shad, designated by De Kay, in his Report on the Fishes of New York, as *alosa mattowaca*. They differ altogether from the common Herrings in their habits, are taken almost exclusively in "Quoddy River," (as the channel is called which separates West Isles from Eastport and Campo Bello) are generally without spawn, and in the autumn are exceedingly fat and fine flavored.

The writer is under great obligations to Mr. John Alexander, of Welch Pool, for the very efficient assistance rendered by him in collecting information in that locality. The following statement of the fisheries of Campo Bello, compiled with great care, and much labour, by Mr. Alexander and John Farmer, Esq., a Magistrate, residing at Welch Pool, is presented as furnishing valuable information of much interest :—

Statement of the quantity and value of Fish, taken in one season by the Fishermen of the Island of Campo Bello, in boats, decked vessels, and fish-weirs owned by them; the estimate being made up from the quantities taken in 1849, corrected by the catch of 1850, so far as it has advanced.

Number and description of Boats.	Number of men and boys employed	Quantity and description of Fish.	Average price.	Amount.
50 Boats.	100	5,000 quintals Pollack, per quintal, ..	5s. 6d.	£1,375 0 0
		150 barrels Cod and Haddock, per barrel, ..	10s.	75 0 0
		500 barrels Herrings, per barrel, ..	12s. 6d.	312 10 0
		100 barrels Oil,	65s.	325 0 0
11 decked vessels, 400 tons burthen.	52	1,750 quintals Cod, per quintal, ..	11s. 3d.	984 7 6
		340 quintals Pollack,	5s. 6d.	93 10 0
		4,600 barrels Herrings, per barrel, ..	12s. 6d.	2,875 0 0
		480 barrels Mackerel, per barrel, ..	30s.	720 0 0
		20 barrels Oil, per barrel, ..	65s.	65 0 0
21 Weirs.	100	40,000 boxes smoked Herrings, per box, ..	1s. 6d.	3,000 0 0
Total,				£9,825 7 6

RECAPITULATION.

5,340 quintals Pollock, ..	..	..	..	..	..	£1,468	10	0
1,750 Do. Cod, ..	..	..	..	..	..	984	7	6
5,100 barrels Herrings, ..	..	..	..	..	..	3,187	10	0
480 Do. Mackerel, ..	..	..	..	..	..	720	0	0
150 Do. Haddock & Cod, ..	..	..	..	..	..	75	0	0
120 Do. Oil, ..	..	..	..	..	..	390	0	0
40,000 boxes smoked Herrings, ..	..	..	..	..	..	3,000	0	0
Total value, ..						£9,825	7	6

Campo Bello, September 6, 1830.

JOHN ALEXANDER.
JOHN FARMER, J.P.

This statement is compiled from actual enquiry among the resident fishermen, and the totals are put down rather below, than above the mark. With this document, Mr. Alexander also furnished, in writing, the following interesting observations, by himself, upon the fisheries of Campo Bello:—

“Our Herrings are taken in weirs, and with nets; and Pollack, Haddock, and Hake, with the line. Several of our vessels run down to the Tuskets, the Magdalen Islands, and Newfoundland, in the Spring; and to St. George’s Bay, in the Winter, for Herrings. In the Summer, they go to Grand Manan, and to both Shores of Nova Scotia, for Herring, Cod, and Mackerel. Improvements may certainly be made in our tackle and gear, but experience will be our best teacher.”

“Our Herring-season here, is from May until December. Pollack strike in about the first of June, and the fishing for them continues until November. Small Cod and Haddock are taken, to a limited extent, during the whole year; these are chiefly pickled, and exported in barrels. The Herrings taken by our vessels, in the Winter and Spring, at the Tuskets, the Magdalen Islands, and the Bay of Saint George, as well as those caught, while spawning, at the Southern Head of Grand Manan, are very poor, and any thing but in season. They generally find a ready sale in the markets of the United States; and from my own experience, I should say, that the poor fish bring nearly as good a price as the best. This arises from the difference of climate; the poorer kinds keep better in a warm climate (as instance, the Alewives of St. John) and answer for the food of the Slave population.”

“I am led to believe, that there is much spawn destroyed at the spawning ground, near the Southern Head of Grand Manan, every season. There are but few spawning Herrings taken here, as it is a small sized Herring that answers for smoking. There are but few Herrings taken here, by “driving” with torches; the fish do not “play” in shore now,

as they did some years ago. There is great diversity of opinion as to the cause, and I feel diffident in giving an opinion. The erratic habits of the Herrings are well known—no doubt you have heard many opinions, and you are well able to draw your own conclusions."

"With respect to weirs, and whether they are, or are not, injurious to the Herring fishery, I should say, as well from the opinion of others, as my own observation, that they are not; neither are they destructive to the fry of other fish. Of the twenty one weirs upon Campo Bello, there are not more than two that are dry at low-water; the others have from 6 to 12 feet water in them, at low-tide—and in many of them, seines 16 fathoms long and 2 fathoms deep, are used to take out the fish. It is impossible for fish to die in any of the deep weirs; and the shoal ones are too carefully attended, for such an accident to happen. I am aware that there are conflicting interests on this question, and very naturally so, as our people, connected with the weirs, are generally men in good circumstances. Our American neighbours have the shores immediately opposite to us, lined with weirs. They neither allow set-nets, or drift-nets, on their shores, as they say nets break up the schulls of Herring, and destroy them by "scaling," (that is, by rubbing off their scales) when they are in any large body."

"Our weir Herrings are principally smoked; as you have seen for yourself, and taken notes of the mode of cure from those competent to give information, I shall not attempt a description. I would remark, that our best curers, in that branch, do not put up Herrings in any way inferior to the famed "Digby Chickens." Our barrelled Herrings are put up in the usual style, that is, by "striking," and afterwards repacking in barrels, either with Liverpool or Turk's Island salt."

"Small Cod, and Haddock, are put up in the same manner; the dried fish are first pickled, and then cured on flakes in the sun. I believe many improvements might be made in the curing and packing of our fish, for a different market; and no doubt it would be done, if other markets open to us; but so long as we are confined to the United States for a market, I doubt if it would pay. While the Americans make so little distinction, there would be no object in curing our fish in a better manner. I have seen and eaten the celebrated Lochfine Herrings; but I think a well cured "Quoddy Herring" vastly superior."

"There is another very cogent reason why it would not pay to put up Herrings in the manner pointed out by the directions

of the Scottish Fishery Board, reprinted in this Province—labour is very high, in consequence of our proximity to the United States. At the same time, I am fully aware, that many of our curers do not pay that attention to the fish which they ought to do. But so long as the merchants will buy them, so long will the fish be put up in a careless manner ; in fact, the cure lies entirely with the merchant."

"There are but few Herrings, and none of the fry of other fish, used as manure on this Island. Drifting with nets is the only illegal mode of fishing practised about here, of which I am aware, and that would be quickly stopped, if persisted in to any extent."

"I have been at some pains to get you a correct estimate of the tonnage, boats, and men, of this Island, employed in the different fisheries, as also their catch, and its actual value, by approximating this with other years. I think you will acknowledge, that if the other fishing districts in the Bay show as much as we do in this small Parish, the fisheries are no contemptible part of the resources of this fine Province."

Several of the fishing establishments at Campo Bello were visited by the writer, accompanied by Mr. Alexander. These establishments were found in excellent order, well and conveniently arranged, and in good repair ; the proprietors appeared to be men in very comfortable circumstances, who were prosperous in their affairs.

Mr. Joseph Patch, a very intelligent fisherman, thus described the mode of cleaning and curing smoked Herrings at Campo Bello. When the Herrings are dipped from the weir, they are thrown into a large boat which is closely ceiled. The fish are "scaled" by men getting into the boat and working their legs backward and forward among the fish, without lifting their feet from the ceiling of the boat—sufficient water for the operation is dipped into the boat with the fish. The men continue to work their legs until the scales are off the fish ; if worked too much, the fish become "belly-broken" and spoiled. After being thus scaled, the fish are washed in small quantities in the dip-nets, to take off the loose scales and dirt ; they are then salted. If large and fat, the quantity of salt used is a bushel and a half to a hogshead of fish ; if the Herrings are small or poor, a bushel answers. They lay in salt from 18 to 36 hours, according to size—the average time is 24 hours ; while in salt, the fish must be kept cool ; when sufficiently salted they are strung on sticks, 3 feet 4 inches in length ; the smallest

province—
ity to the
that many
which they
them, so
fact, the

y of other
nets is the
of which I
ersisted in

estimate of
yed in the
value, by
ll acknow-
w as much
contempti-

Bello were
r. These
and conve-
s appeared
were pros-

us descri-
herrings at
a the weir,
led. The
d working
out lifting
ter for the
men con-
he fish; if
nd spoiled.
quantities
; they are
used is a
rrings are
from 18 to
24 hours;
ntiy salted
the smallest

fish are strung first, as the largest require more salt. After they are on the sticks, the fish are rinsed quite clean in fresh water; they are then hung up in the bays of the smoke-house. The usual size of smoke-houses, is 24 by 30 feet, the height to the ridge of the roof, 25 feet. Mr. Patch's smoke-house is 30 feet high, there are 8 bays in it, each of the usual width of 3 feet; the lowermost row of fish hang only five feet from the fire. It was stated by Mr. Patch, that he found by experience, *the cooler the smoke, the better the fish*; he had openings made in the ridge of his smoke-house, as well to let off the dead smoke, as to make the place cooler, and he admitted, that the fish which hung highest were always the best. He uses any kind of wood he can get for making smoke; hard wood is the best, as soft wood fills the fish with white ashes. The large fish require three months smoking; during that time they need great attention, and much good management, especially in rainy or damp weather. When sufficiently cured, the Herrings are packed in boxes, of the legal size in Maine—that is 17 inches long, 8½ inches wide, and 6 inches deep, measured on the inside of the box. The best quality of smoked Herrings are called “scaled Herrings;” these are the largest and best fish. Those called No. 1, are Herrings not scaled, and small fish. A “scaled Herring” must be seven inches long, fat and good; the “No. 1” must not be less than six inches in length; and large, but poor fish, are also branded of this quality. All other descriptions of fish are considered refuse.

Mr. John Batson's smoke-houses were found the same as those of Mr. Patch, but not so well ventilated. The mode of scaling and curing was found to be the same as above described. At the establishment of Mr. William Flagg, the Herrings were observed to be particularly well cured, and of fine color; this “gilding” as is termed, is given by the use of hard wood only, with which the last smoking is done; it imparts a rich golden colour to the fish, and gives them the well known tinge of the celebrated “Digby Chickens.” The difference between the modes of scaling, curing, and smoking, in use at Grand Manan and Campo Bello, are pointed out in another part of this Report, in describing the fisheries of Annapolis Basin; and some of the reasons are given, why the smoked Herrings of that locality are so greatly superior to all others.

Mr. Flagg, who is a person of much observation and long experience, stated as his opinion, that it takes Herrings three years to come to maturity. He has watched them carefully for years; and seeing them constantly in the weirs, from the

size of *britt*, up to the largest Herring, he feels quite confident as to the period. He has sometimes, though rarely, taken "Sardines" on the shores of Campo Bello; only a few days previously he had caught a single specimen of this rare fish in the Bay of Fundy.

This locality was re-visited in the latter part of October. Mr. Patch then stated, that the herring-season was over; it was considered a failure, as the quantity taken in the weirs, was only about half the usual, or average, catch. The quality of the fish taken was good; not many small fish had been caught—he had only thrown away three barrels, while his whole catch amounted to 3000 boxes; at that time, they were worth fifty cents, or two shillings and six pence currency per box in consequence of there being a short supply in the market.

WEST ISLES.

This Parish includes Indian Island, Deer Island, and a great number of small Islands and Islets, in Passamaquoddy Bay, west of the Boundary Line of the United States. The inhabitants are fishermen about exclusively, somewhat peculiar in their manners and habits, but most industrious, hardy, and exceedingly hospitable people. The best fishing grounds are on the British side of the boundary, which is an imaginary line, passing down the middle of the channel called Quoddy River, and out to sea by the western passage, between Lubec and the western end of Campo Bello.

The fishing boats from Eastport, and other places within the limits of the United States, fish equally, and mingle freely with the British boats on their fishing grounds, near West Isles, where the fish are most numerous; especially near Black Rock, Casco Island, and the Big Eddy near Indian Island. It is a very gay scene on a fine day, to mingle with some two or three hundred boats fishing in the Big Eddy, lying so closely together as to leave little more than space between to pull up the fish. The writer joined this animated throng more than once, in August and September, when Pollack were taken of large size, and in great abundance. The fishing began either just before high water, or just before low water, on what are called "the slacks" of the tide. The boats then lay at anchor; as few anchors as possible are dropped to avoid fouling the fishing lines, the boats making fast to each other, stem and stern. Thus they lie until the tide begins to run too strong,

confident
y, taken
few days
re fish in

October.
over ; it
the weirs,
he quality
had been
while his
they were
currency
ly in the

d, and a
naquoddy
tes. The
t peculiar
ardy, and
ounds are
nary line,
dy River,
ec and the

ces within
gle freely
ear West
ear Black
n Island.
some two
so closely
to pull up
more than
taken of
an either
what are
ay at an-
id fouling
stem and
so strong,

when the anchors are lifted, and the boats then swing about, almost in a body, with the different sets of current through the passages between the Islands, fishing "on the drift" as it is termed—the fish below appearing to move about in the same manner as the boats above. This continues until the tide begins to set too strong, when the boats proceed to the coves and eddies near Campo Bello, or some of the small Islands or rocky islets, where they drop anchor and fish out the rest of the tide.

While the boats are congregated together fishing in close column, they appear to attract the fish by the number of baits which are let down at the same time. There are generally three men in each boat ; all is life, bustle, and animation. The line is scarcely down, when the fisherman commences drawing up a fish ; the depth varies from 14 to 28 fathoms, and very often the hook is not half way down, when it is seized by a fish. While fish are being thus rapidly drawn into the boats, jokes and gibes are freely bandied ; any lively story, or piece of stinging wit, passes quickly from boat to boat, and laughter, cheers, and almost invariable good temper prevail among all, whether British or Americans. If one boat falls short of bait, it is supplied from another which is better provided ; and civilities sometimes extend to an interchange of hooks, snoods, and fishing leads. When the British boats go over to Eastport, as they generally do, to dispose of their fish, no questions are asked as to the character of the boat. If the American boats enjoy the privilege of fishing on the best grounds within the limits of New Brunswick, those of West Isles can sell their fish at Eastport without payment of duty or charges. The good feeling which springs from this state of things, causes the fishery business to go on smoothly and quietly along the frontier, where, under other circumstances, there would almost to a certainty, be constant quarrels and collisions.

To an amateur, the Pollack fishing in the Big Eddy, with the crowd of boats to be found there in the season, is extremely amusing and highly exciting ; but when the fish bite quickly, and are taken of large size in pairs, as frequently happens, the work soon becomes exceedingly severe. With the Pollack, small Cod and Haddock are also taken, with, now and then a Dog fish, and sometimes a Sculpin or a Skate of large size ; the variety of fish tends to keep up the excitement, and lends animation to the fishery.

In a lecture on the Fisheries delivered a few years since by

Mr. Lorenzo Sabine, of Westport, who had paid great attention to the subject, the following description was given of the fishermen of West Isles :—

“ In closing my remarks on the fisheries, I feel bound to give you some idea of a Bay of Fundy, or as we call him, a “boat-fisherman.” In commencing his picture, I cannot say that he is either so moral, so intelligent, or so industrious, as he might be ; but yet, I can say, that he is an improved, and an improving man. Bred to the use of boats from his earliest youth, he displays rare skill in their management, and great boldness in his adventures. He will cross from island to island, and go from passage to passage, through frightful whirls of a tide which ordinarily rises and fall twenty five feet, in alarming proximity to rocks and bars, and in the stormiest weather. As a whole, he is a singular, and withal an interesting being ; and none who have once learned his peculiarities, will ever forget him. If he be naturally shrewd, (most of them are,) and past the middle age, occasional intercourse with him will amuse, if not instruct, the wisest and most polished.”

“ He is neither a landsman, nor a seaman, nor soldier, nor marine ; yet, ten to one, if in the course of conversation with him, you do not find that he has figured in them all. He is neither merchant nor mechanic, but no man better understands buying and selling, or mending, altering, and making. He is no doctor, but he will out-talk a medical graduate, and will shame him in a knowledge of ‘livers,’ ‘back bones,’ the means to cure ‘rhumatiz,’ and the like. He is no astronomer, and holds nautical instruments in high derision ; but he knows all about the moon, and let him but hear the moaning of the sea—listen to the scream of the gull—or the sound of the surf—and watch the cat’s paw, or ‘glim,’ in the sky—and he will reveal secrets, and disclose truths, which put him in high conceit with his own wisdom, and shame the landsman.”

“ And then, seat yourself beside him, and hear him comment upon his dream book. Listen as he tells you of the feats of the witch, that lives in his particular harbour—or of the accidents that have happened from doing things on Friday—or what have followed the signs and omens that he believes in. Then, there are his tales of wonderful escapes—his ‘fish stories,’ and his sage conclusions in politics—his notions of religion, or his profound speculations on the causes of the high price of bread-stuffs, or of the means employed to keep down the price of fish.”

"But of his dress, and his professional gear—who shall do justice to them?"

"The oiled garments which cover his upper and nether man, he calls his 'ile-sute.' The queer shaped thing which he wears upon his crown, he names a 'sou'-wester.' An article, neither mittens nor gloves, which protect his hands, he calls 'nippers.' The matted and tangled mass which grows upon his head, and the long red hair which under his chin, answers, the purpose of a neckcloth, and in front of his ears, renders him impervious to a dun, he calls 'brush.' His boots, he says, are 'stampers;' and lest he should lose the moveables he carries in his pockets, he has them fastened to his person by a string, which he calls a 'lanyard.' He uses one knife which he calls 'cut-throat,' and another that is a 'Splitter;' his apron is a 'barvel'—the box, or compartment into which he throws his fish as he catches them, is a 'kid.' When he means to go for Herring, he says he is 'agoing-a-driving'—the state of the moon favourable for this purpose are, 'Darks'—the bent-up iron hoops, which he uses to carry his burning torch, bears the name of 'dragon'—the small net, with an iron bow and wooden handle, which he uses to secure the fish that his torch attracts, is a 'dip-net.' To another and a larger net, with lead on its bottom edge to sink it in the water, and with corks fastened along its upper edge at regular intervals, to buoy it up, and preserve it in nearly a perpendicular direction, that the Herrings may strike it and become entangled in its meshes—to this he gives a name indicative of its use—he calls it, a 'set-net.'"

"Nor ends his dialect here. Chebacco boats and small schooners are known to him as 'pinkies,' 'pogies,' and 'jiggers.' All vessels he calls 'craft,' and the only distinction he will condescend to make, is to append the adjective; such as large, small, nice, poor 'craft.' He knows nothing about the hours of day or night; every thing with him goes by tides. Thus, if you ask him, about what time he was married, he will perhaps say—'tother night, about half-flood!'—or what time he saw a certain man, his reply will be, 'this morning about low water slack,'—or, 'on young flood'—or, 'just as the ebb tide made.'"

"If he has fish to sell, and you ask him their size, he will tell you they are 'two-quintal fish,' by which he means, that fifty of them will weigh 112lbs. His boat anchor he calls a 'killock,' and the rope attached to it he styles a 'rode.' If he speaks of the length of line required on different fishing

grounds, he will say that on the Banks and in the Bay of Fundy, 'two shotts' are used, and at the Labrador but 'half a shott,' and by a 'shott' he means a line of thirty fathoms."

"Lest it should be thought I have made too much of this original, I beg to remark, that should any who doubt his existence ever shake me by the hand at my own home, I promise to show them the very man; and I have bestowed the more attention upon him, because many of his qualities of character and forms of speech are common to all fishermen, and because the knives and other gear are in general use. Should any of you go with me to the house of this singular being, he will probably ask us to stay to dinner—let me then give you the form of invitation, that you may remember it."

"He will probably have provided something extra; it will consist of his favorite dishes, to wit—the three p's,—a pot-pie of sea-fowl, pudding, and pancakes. The proper moment arrived, he will say—'come, skippers, down with your killocks and get some grub; don't know as you'll like it, but our woman has got us some fresh smothers, some duff, and joe-floggies.'"

It may be remarked, that since Mr. Sabine gave this quaint description of the "boat fisherman" which is copied from his own notes, the labours of the Sons of Temperance have been very successful, and have tended greatly to improve his condition in every way.

DEER ISLAND.

This Island is broken and rocky, the central portion especially, and there is comparatively very little land fit for farming purposes; but such as is fit, is of good quality. Its Harbours are good, and there are numerous Coves which afford excellent shelter for boats, with deep water close to their shores. There is a very considerable number of inhabitants on Deer Island, who are all more or less engaged in the fisheries, of which that for Pollack, holds at present the first place, in this locality; the Herring fishery is considered next in value, after which come the fisheries for Cod, Hake, and Haddock, with Mackerel fishing when it is to be had in the neighbourhood.

The boats generally in use at Deer Island are from 10 to 18 feet in length; the 12 feet boat has one man, the 18 feet boat usually three men. These boats have sharp, or pink sterns, with one mast shipped very close to the stem, and a

mainsail very broad at the foot, stretched well out with a light boom, and running up to a point at the top. These boats sail uncommonly well, and lay very close to the wind; they are exceedingly safe in the hands of the fishermen, who certainly manage them most admirably. The sail is usually tanned with hemlock bark, which imparts to it a reddish brown colour; as the boats are generally painted white, they have a very smart and somewhat singular appearance, as they dart through the narrow passages between the numerous small islands and reefs, or sweep down in little fleets of ten or twenty boats to the usual fishing grounds.

The first place visited at Deer Island was Chocolate Cove, at which locality James M'Neal, Esq., J. P., and his son, both intelligent persons, furnished the following information:—They said that the most profitable fishing there, was for Pollack and Herring; the Pollack average fifty to the quintal. The Deer Island fishers have some difficulty in procuring bait; they are obliged to go over to the American side, and buy it there from the weir owners, who charge two Pollack, green or dry, for a bucket full of small Herrings. They said that Herrings would not "drive" as formerly; that the Indians by continually firing at the Porpoises, have destroyed or driven them off, and the Herrings not being chased by Porpoises into eddies near the shore, but keeping out in mid-channel, cannot now be "driven" with the torch as in the olden time.

The mode of curing Pollack and Herrings on this Island, was stated to be as follows:—After Pollack are split, they are washed, and lightly salted in tubs and hogsheads. During the summer, they remain in salt three or four days; in the autumn, four or five days. They are then washed in their pickle, and piled in *kinch* to drain for 24 hours, after which they are put upon the flakes. At night, they are piled on the flakes, in heaps called "faggots;" in fine weather, they cure in a week; after this, they are spread out again during a fine day, to dry the sweat. In the autumn, the fish are not sweated.

Herrings after being gibbed, are washed in a tub, and then salted; they lay in salt four days. If the pickle sours, the fish are spoiled, as they taint at once. When taken out of pickle, they are packed in barrels, on their backs. Messrs. M'Neal said, that Herrings had too little pains bestowed upon them, and very many were sent away to the country quite spoiled. From want of means to buy a stock of salt, the fishermen used it too sparingly, and hence, too often, the spoiling of the fish.

The Herrings here alluded to, are those called "Quoddy River Herrings;" they are taken from August until late in the autumn, by drifting at night, in the same manner as for Shad; those taken latest in the season are best and fattest, but it is then very cold work sitting in an open boat all night, and the fishermen suffer severely.

The smaller Herrings, such as are generally cured by smoking, were formerly very abundant on the shores of Deer Island. The fishermen of Campo Bello said, that the people of Deer Island had broken up the schalls, and driven the fish away, by the excessive use of small meshed nets. On the American side of Quoddy River, the use of such nets is altogether prohibited.

At Leonard's Cove, the fishing establishment of Mr. George Leonard was visited. Mr. Leonard stated, that he had lived at this place thirty years. He fishes principally for Pollack; but in the autumn he takes small Cod. He built a brush weir in the past spring, which cost £75; up to the 9th September, it had only caught 75 boxes of Herring; but it had been exceedingly useful to the line-fishers in his neighbourhood, by furnishing them with bait. At Deer Island, there are only four weirs altogether; in Leonard's weir there is four feet water, at low tide. It being near low water, the weir was visited and examined; in it were found, a few very fine "Quoddy River Herrings," about a bushel of small Cod, one Lobster, eight Mackerel, and some small Herrings, only fit for bait. Mr. Leonard quite agreed with Mr. Flagg, of Campo Bello, that Herrings attain their full growth in three years.

The fishing establishment of Mr. James Neill, near the northern end of the Island, was also visited. Mr. Neill purchases many fish from the fishermen, which he cures himself; his dealings in fish are somewhat extensive. In his vicinity, Hake are abundant, and also Haddock. At the time this establishment was visited (9th September) the oil made from the liver of a Hake, was more valuable than the Hake itself. The Hake here were better cleaned than at Grand Manan, but there was the same desire to oversalt, and make the fish weigh as heavy as possible.

Mr. Neill stated, that the Hake he cured went sometimes to Cuba, but generally to the foreign West India Islands; the Cod to Boston and New York, for domestic consumption there; the Haddock were shipped to Cuba; and the Pollack were sold in Maine, chiefly for consumption in the forest by the lumbermen. At this establishment 262lbs. of green fish were weighed as a quintal.

The practice of taking Herrings on the spawning ground, at the Southern Head of Grand Manan, was reprobated by Mr. Neill, as highly detrimental to the Herring fishery generally; the quality of the Herring caught there, and the careless manner in which they were cured from want of time, were also stated to be highly injurious to the market, as depreciating the value of Herrings which are really good and well cured. An inspection of Herrings, Mr. Neill said, was greatly required, in order to raise their character in distant markets—the Herrings taken on the “rippings,” about six miles from Grand Manan, were said to be good fish, and needed only proper care and inspection to be highly prized abroad.

A visit was paid at Indian Island to Mr. James Chaffey, an aged man, of much intelligence, who has long resided there. Mr. Chaffey said, that Herrings were not so abundant now, as twenty years since; of late years the quantity has fallen off greatly, and they are now much smaller. He did not consider the weirs injurious to the Herring fishery, but thought the mischief was done at Grand Manan.

When Mr. Chaffey first went to Indian Island, *britt* were very abundant; they averaged about three inches in length. These little fish were exceedingly valuable as food for larger fish, but from some unaccountable cause, they have altogether disappeared, not a single specimen having been seen for the last ten years.

With some trouble the number of fishing boats and vessels, at the following localities in West Isles, was procured, viz:—Clam Cove, Cummin's Cove, Mill Creek, Chocolate Cove, Leonard's Cove, Lord's Cove, Bean's Island, Mowat's Harbour, Adam's Island, Parker's Island, Minister's Island, Hardwood Island, Fish Island, North West Harbour, Northern Cove, and Indian Island. The whole number of boats was ascertained to be 99; and of decked vessels, 27, of 577 tons register.

THE COAST FROM L'ETITE PASSAGE TO POINT LEPREAU.

The fishermen on this Coast pay more attention to farming than those of West Isles; the character of the fisheries are the same, except that the Hake are in greater abundance near the shore, owing to the bottom being soft.

Captain Jedediah Califf has lived at L'Etang Island, entrance of L'Etang Harbour, for thirty years. He stated, that Hake is the principal fishery near that place; it begins in

July, and continues until November. The fishing for Cod is chiefly in the spring and autumn; Pollack fishing is had during the summer, as the fish strike in—they run about 35 to the quintal. Herrings are taken during nearly the whole year, more or less being caught every month; they do not catch any of the large fish, known as “Quoddy River Herrings,” but they take the “blue-backs,” or “English Herrings,” as the fishermen term them—these are the fish designated by naturalists in America, *clupea elongata*, or, the common Herring. There are four brush weirs at L’Etang, intended to take small Herrings for smoking. The catch has greatly fallen off lately, and this Captain Califf attributed to the enormous destruction of spawning Herrings, and their spawn, at Grand Manan; he has been there during the fishing season, and seen the Herring-spawn after being shaken from the nets, shovelled out of the boats like snow!

In the dead of winter, Herrings frequently enter L’Etang Harbour in large quantities; they are then taken in “set-nets” of 30 fathoms in length, and 150 meshes deep—the size of the mesh, 2 inches.

The boats in use along the coast, are from 16 to 22 feet in length, chiefly built of pine; some fishermen put in a few streaks of birch; the stem, stern-post, and keel, are always of birch.

When the fishermen need bait during the summer, they “drive” the Herrings with torches, and in that way procure the quantity they require. It appeared that Herrings would still “drive” in this locality, probably from the shulls not being broken up, as elsewhere, by numerous brush weirs.

Between L’etite Passage and Point Lepreau, the number of fishing boats was found to be 90 in all, averaging 3 men each. These boats chiefly belong to Back Bay, L’Etang, Beaver Harbour, Seely’s Cove, Crow Harbour, Deadman’s Harbour, Bliss’ Island, and Mace’s Bay, where the fishermen are principally settled, and cultivate the soil to some extent.

THE WOLVES.

This cluster of Islands lies at some distance from the mainland; on the largest of the group there is one family, that of James Paul, who constitute the only inhabitants. The fishing around these Islands is chiefly in the spring, for Cod, which remain about a month; and in the autumn for Hake, during a short time. The best fishing for Cod is on a bank, about nine

for Cod is
s had dur-
bout 35 to
whole year,
catch any
ings," but
s," as the
d by natu-
n Herring.
take small
llen off lat-
enormous
n, at Grand
n, and seen
s, shovelled

er L'Etang
"set-nets"
size of the

o 22 feet in
t in a few
e always of

ummer, they
ay procure
ings would
schulls not
weirs.

e number of
3 men each.
ng, Beaver
s Harbour,
n are print-
t.

n the main-
ly, that of
The fishing
Cod, which
e, during a
about nine

miles S.S.E. from the Wolves, upon which, in May, some fine fish may be taken. There is also Herring fishing occasionally; and fishermen from St. John encamp on these Islands, when fish are to be had in their vicinity. The Wolves are not greatly esteemed by fishermen as a fishing station.

During the past season, several hundred barrels of Mackerel were caught (chiefly by fishermen from Eastport) between the Wolves and the entrance to L'Etang; the British fishermen were not equipped for this fishing, or else they did not understand how to pursue it, for they caught a very few fish on days when American vessels made a capital catch.

THE VALUE OF THE FISHERIES AT WEST ISLES.

Since this Report was written, a return has been received from Mr. John Alexander, of Campo Bello, of the value of the fish taken in one season, by the fishermen of West Isles, which is here given. It will be observed, that Mr. Alexander states the number of open boats at 200, which is believed to be more than strictly belong to the Parish of West Isles; the return probably includes boats belonging to the neighbouring Parishes of St. George and Pennfield, on the mainland, which fish on the same grounds—in such case, it may be deemed quite correct:—

Return of the quantity and value of Fish taken in one season by the Fishermen of West Isles, in boats, decked vessels, and fish-weirs owned by them.

Boats, vessels and Fish-weirs.	No. of Men.	Quantities and description of Fish.	Average price.	Amount.
200 open boats.	500	20,000 quintals Pollack and Hake, per quin.,	5s. 6d.	£5,500 0 0
		800 barrels Cod and Haddock, per brl.,	10s.	400 0 0
		2,000 barrels Herrings, per brl.,	12s. 6d.	1,250 0 0
		400 barrels Oil, per brl.,	65s.	1,300 0 0
27 decked vessels, 577 tons register.	156	3,750 quintals Cod, per quin.,	11s. 3d.	2,109 7 6
		800 quintals Pollack, per quin.,	5s. 6d.	220 0 0
		1,500 barrels Herrings, per brl.,	12s. 6d.	937 10 0
		50 barrels Oil, per brl.,	65s.	162 10 0
7 weirs.	35	5,000 boxes Smoked Herrings, per box,	1s. 6d.	375 0 0
Total value,				£12,254 7 6

RECAPITULATION.

20,800 quintals Pollack and Hake,	£5,720 0 0
3,750 quintals Cod,	2,109 7 6
3,500 barrels Herrings,	2,167 10 0
800 barrels Cod and Haddock,	400 0 0
450 barrels Oil,	1,462 10 0
5,000 boxes Smoked Herrings,	375 0 0

£12,254 7 6

Campo Bello, February, 1851.

J. ALEXANDER.

With reference to this return, it may be remarked, that the decked vessels of West Isles, like those of Campo Bello, follow the fisheries at Grand Manan, on the shores of Nova Scotia, and elsewhere, during the season, with much diligence and perseverance, and as appears by this return, with very considerable success.

EASTPORT.

As the Fishermen of West Isles, Campo Bello, and Grand Manan, find their chief market at this border town of the United States, the fishing establishments there were visited and examined.

These establishments are all close to the water side, with convenient wharves, landing places, cranes for hoisting, and easy stairs; the wharf room in each case is ample, and generally well planked over. The buildings consist of large warehouses for salt and materials; buildings for storing and packing pickled fish, and stores for dry fish; and a large shop for cotton and woollen goods, groceries, and a full supply of every description of article usually required by fishermen or their families—beyond the buildings on the landward side, is usually a field covered with fish-flakes, for the cure of dry fish.

During the past year, the decennial Census of the United States was taken, and the writer was kindly permitted by Mr. Charles Loring, one of the Assistant Marshals of Maine, to extract from the Returns compiled by him, the following official estimate of the products of the Fisheries at Eastport, as returned by him to the Government of the United States:—

Products of industry in Eastport, in the County of Washington, State of Maine, during the year ending Jan. 1, 1870.

Charles Loring, Assistant Marshal.

Capital invested in real and personal estate, in the business.	Raw materials used including fuel.	Value.	Kind of motive power, machinery, &c.	Average number of hands employed.	Average monthly wages.	Quantities.	Value.
Humphry Pike,	4000 bushels salt, 20 cords wood,	\$1200 50	hand and boat, vessel.	35	\$700	4000 quintals dry Fish, 2000 barrels Herrings, 1500 boxes smoked Ditto, 150 barrels Mackerel,	\$5,000 5,000 600 900
Upham S. Treat,	15 tons Salmon & Lobsters, 30 tons Meats, 16 tons Vegetables, 160 bushels Salt, 20 cords wood,	3000 3500 2700 45 50 1200	hand and boat,	30	600	9000 cans Salmon & Lobsters, 3000 cans Meat, 1000 cans Vegetables, 2000 boxes Herrings,	\$11,500 5,000 6,700 5,300 800
Wm. W. Bucknam,	4000 bushels Salt,	1200	do.	45	900	3000 quintals dry Fish, 3000 barrels Herrings, 2000 barrels pickled Fish, 100 barrels Oil,	17,800 3,750 5,000 4,000 1,400
Samuel Bucknam,	3500 bushels Salt,	1050	do.	42	800	3000 quintals dry Fish, 1000 barrels pickled Ditto, 200 barrels Oil,	14,150 3,750 2,000 2,800
Asa Bucknam & Co.,	3500 bushels Salt,	750	do.	30	600	2000 barrels Herrings,	13,550 3,750 5,000 700
John Bucknam,	2000 bushels Salt,	600	do.	25	500	3000 quintals dry Fish, 2000 barrels Herrings, 100 barrels Oil,	9,250 5,000 2,500 1,400
John French,	2750 bushels Salt,	825	do.	25	500	3000 quintals dry Fish, 2000 barrels Herrings, 503 barrels pickled Fish, 150 barrels Mackerel,	\$,900 3,750 5,000 1,000 900
						Total,	10,650 \$85,900

In proportion to the number of men employed, this Return of products is very great ; but it must be borne in mind, that the fish are chiefly caught by British fishermen, and carried over to Eastport, either quite fresh, or only pickle-salted.

The establishment of Upham J. Treat, mentioned in the foregoing Return, is on Allen's Island, between Eastport and the neighbouring town of Lubec. At this place, there is a very large weir for taking Herrings, in which considerable numbers are caught. The arrangements for putting up Salmon and Lobsters in tin cases hermetically sealed, are very excellent, besides which, fresh vegetables (green peas and Indian corn) with poultry, and several descriptions of meat, are also put up, in similar manner.

The fresh Salmon put up here, are brought in ice from the Harbour of St. John. The Lobsters are brought in smacks, with wells, from the westward ; when too many arrive at one time, they are placed in the tide, in a sort of crib, or pound, enclosed with high palings, and there fed until they can be boiled and packed. The first supply of Lobsters in the Spring comes from the vicinity of Portland ; as the season advances, they are taken further east ; in August, the supply came from East Machias. The price paid at this establishment for Lobsters, is \$5 per hundred, equal to three pence currency each Lobster. When the place was visited, on the 20th August, no less than 1200 Lobsters were boiled and packed on that day. It was observed, that a great proportion of the Lobsters were males, many of them of exceedingly large size ; these were boiled 35 minutes. The smaller Lobsters (females) were only boiled 27 minutes ; these were kept apart from the others, and put up separately, as a better article, the meat being finer, and the flavour much superior.

The white meat only of the Lobster—that which is contained in the claws and tail part—is picked out in a very expeditious manner, and placed in the tin cases ; all the rest of the fish is thrown away, or rather, is carted away to the compost heap.

The smoked fish here, appeared of small size, and were not well cured. They had not a good color, and hung far too near the fire to be of good flavour. The smoke houses were altogether too low, and too warm for curing fish of good quality ; in this respect, the Americans seemed no better than their neighbours on the other side the boundary.

In order to procure exact information, the fish stores of Mr. John French, at Eastport, were visited on the 22d August,

and Mr. French himself gave every facility, for which the writer's best acknowledgments are due.

Mr. French stated, that he had been 24 years engaged in the fish business at Eastport. He was then taking in dried Cod at \$2.50 per quintal, and Pollack, Hake, and Haddock at \$1.00 per quintal. Of green fish, he weighed 262 lbs. as a quintal, at the same prices, but the pay was not so good—that is—the pay was all in goods, and not partly in cash, as for dry fish. This weight, Mr. French admitted, would make more than a quintal of dry fish, especially at that season of the year. Pickled Cod were purchased at \$1.75 for 200 lbs.; for scale fish, the price was \$1.00 for 200 lbs., payable, in both cases, in goods. The prices of some of the goods delivered in payment were as follows:—molasses, 35 cents per gallon; flour, \$6.25 per barrel; tobacco, 25 cents per pound; pilot bread, 5 cents per pound; navy bread, 4 cents per pound; pork, 10 cents per pound. These articles were all of good quality, the pilot and navy bread especially.

The Grand Manan Herrings are bought in bulk by Mr. French, at \$1.50 for 200 lbs.; with the price of the barrel, and expense of packing, they cost at Eastport \$2.50 per barrel, when ready for shipment, which is just the price they sell for at Boston—the profit is made on the goods that are given in payment. It was noticed here, that the chimes of the Herring barrels were twice as deep as those of English barrels; they hold can-hooks better, and are considered superior in other respects.

Fish-oil was purchased by Mr. French at \$16 per barrel, a higher price than usual, the article being scarce and in demand. In the early part of the season, it takes the livers of 100 quintals of Pollack to make a barrel of oil; but as the season advances, the fish become in better condition, and the livers of 25 quintals will make a barrel.

Porpoise oil was bought at one dollar per gallon. An Indian who was delivering some of this oil to Mr. French, stated that ten gallons of oil were usually obtained from six Porpoises.

It was said by Mr. French, that when he first commenced business at Eastport, the Pollack were taken of very large size; they have since constantly diminished, and are still diminishing. The small Pollack—which the fishermen call "Harbour Pollack"—when caught formerly, were thrown back into the sea, but now they are split and dried with the others. The decrease in the size of Pollack was supposed to arise from

the great destruction of small Herrings in the weirs, thus diminishing the quantity of food for the Pollack.

Prior to 1839, there was excellent Mackerel fishing in the vicinity of Grand Manan; these fish then entered the Bay of Fundy in immense schools, and the American fishers took them in large quantities. But since 1839, the Mackerel seem to have shifted their ground, as no large body of these fish has been seen in the Bay since that period. Mr. French stated, that he had seen large Mackerel, as fat as any he ever saw, which were taken on Cod-hooks, in deep water near Grand Manan, during the winter season; and he adduced this as a proof, that Mackerel do not leave the Coast, but merely retire into deep water during the winter.

LUBEC.

At this town, which is about three miles from Eastport, and very close to Campo Bello, great quantities of smoked Herrings are put up annually; at one period, no less than 60,000 boxes were cured every season, but the quantity has considerably diminished of late years. There are numerous smoke houses along the water side, most of which are open to the objection of heating, rather than coolly smoking the fish, as ought to be done to ensure fine color and good flavour, as well as freedom from taint or rancidity.

In the passage between Campo Bello and West Quoddy, just beyond Lubec, there are extensive weirs on both sides, out to the very edge of the ship channel; in some places the weirs approach each other so closely, as to leave but narrow space between. The channel being crooked as well as narrow, it is difficult for a vessel to get through safely after nightfall, especially if the night be at all dark or foggy. The steamer "Commodore," having on board a party of delegates to the Railroad Convention at Portland, in July last, attempted to pass out to sea by this passage during a foggy night, but was fairly caught in one of the weirs, and was compelled to remain there until daylight. The misadventure occasioned some witty, and piquant remarks, at the Convention, in connection with the discussion of steam navigation across the Bay of Fundy, in connection with a Railway through the western part of Nova Scotia.

A legal gentleman at Eastport was asked, if the laws of Maine permitted the erection of weirs, in this passage, to such an inconvenient extent; it was stated in reply, that the law

neither sanctioned their construction, neither did it forbid their being placed there. The weirs had been standing in West Quoddy passage, this gentleman said, for several years without let or hindrance; and as the law was silent on the subject, the proprietors conceived they had obtained what they called "negative approval."

In the channel between Lubec and Eastport, very large and fine Scallops were formerly found, and in all probability they may be found there still. Major General H. A. S. Dearborn, U.S.A., now Mayor of Roxbury, in a letter to the writer says:

"I was at Eastport in 1819, and obtained very large and excellent Scallops—*pecten*—but differing from *pecten concentricus*, on the Coast of Massachusetts, being four times as large; many of them were six inches in diameter. I used a dredge-net, and procured them, between Eastport and the western end of Campo Bello, in mid-channel, where the water was six to nine fathoms in depth."

The dredge-net might again be employed in this, as well as other localities in the Bay of Fundy, with advantage; it would perhaps bring to light some varieties of fish not generally known at present, especially of Flat fish, resembling Plaice and Sole, which are believed to exist in the Bay. With regard to Scallops, it may be stated, that they are frequently taken, in considerable quantities, and of the large size mentioned by General Dearborn, at Mace's Bay, north-west of Point Lepreau, where extensive beds of this peculiar shell-fish are known to exist. Of late, the edible portion of these large Scallops has been put up by a noted preserving establishment at New York, and sold in glass bottles at a high price, as an unusual luxury. They are much esteemed, and sell readily; so this branch of business is open to the people of New Brunswick, who have a large supply of the Scallop, easily accessible.

THE FISHERIES OF THE RIVER SAINT CROIX.

As several complaints were made to the writer of the state of the fisheries in the tide-way of the St. Croix, near St. Stephen and Mill Town, these places were visited in September last.

The River St. Croix being the boundary between the British Colonies and the United States, the jurisdiction of New Brunswick only extends to the centre of the channel of the river; the remaining portion is under the control of the State of Maine. The fisheries on the American side of the River, are subject

to the supervision of the Fishery Committee of the Town of Calais, whose duties are nearly similar to those of Overseers of the fisheries in New Brunswick.

The lower dam on the St. Croix is in the tide-way, between St. Stephen and Milltown; at a place formerly called the Middle Landing; it is a high solid dam from bank to bank; and upon it there are a number of mills—it is called the Union Mill Dam. Above the back-water occasioned by the Union Dam, are the Salmon Falls; the St. Croix is here very narrow, and there is considerable fall over a rugged ledge of rocks. Piers for a railway bridge were being placed in the river at these falls, upon which, it is said, a factory is to be erected. Next above the Salmon Falls, are the extensive mills and dams at Milltown, almost filling the River for some distance. At the American town of Baring, five miles above St. Stephen, there is a third dam on the river, extending from side to side. There is a square opening in this dam, intended for sluicing logs when the river is low—this is termed a “fish-way,”—for which, however, it is said not to answer. About six miles above Baring, at Sprague’s Falls, there is a solid dam across the river, called the “driving dam;” in that there is no provision whatever for the passage of fish.

On examining the Union Mill Dam, it was found that there was no fish-way. There is a sort of “roll” on the top of the dam, over which the waste water passes, and it was said that fish *could* get over at high-water; if so, it is most probable that Salmon only could effect the passage—if other fish do get over, it must be with great difficulty and very rarely.

At Milltown, owing to the peculiar formation of the ledges on which the various dams are placed, there is a narrow channel, up which fish may pass, if it is kept free from obstructions. This channel was found closely jammed with logs, and the water being low, no fish, even of the smallest size, could pass. It was stated by the millmen at this place, that when the water is high in the Spring, at the usual time for the passage of fish, the fish-way is constantly filled with edgings, rinds, and rubbish, from the mills above, so that it rarely happens a fish can get through.

Mr. Edward Sydney Dyer, who resides at Calais, stated that his father’s residence was near the Salmon Falls; he was born there, and resided beside those Falls until after he attained to manhood. About thirty years since, Salmon, Shad, and Gaspereaux, were exceedingly abundant in the St. Croix; the average catch at the Salmon Falls was 200 Salmon per day,

Town of
Overseers

between
alled the
ank ; and
he Union
he Union
very nar-
e of rocks.
e river at
e erected.
and dams
ance. At
. Stephen,
de to side.
or sluicing
way,"—for
six miles
dam across
s no provi-

that there
top of the
s said that
t probable
fish do get

the ledges
row chan-
structions.
s, and the
size, could
at when the
he passage
rinds, and
pens a fish

stated that
he was born
attained to
, and Gas-
Croix ; the
on per day,

for three months in each season. The Gaspereau came in such quantities, that it was supposed they never could be destroyed ; and the numbers of Shad were almost incredible.

Up to 1825, the dams on the river were provided with fish-ways, and while these were maintained, the fisheries of the river did not diminish ; but in that year, the Union Dam, (the lowermost,) was built without a fish-way, and the fisheries instantly fell off, continuing to diminish ever since, and now they can scarcely be said to exist. In 1846, the Union Dam was swept away by a great flood, and fish got up the River ; for two years after, there was very good fishing, but the rebuilding of the dam again put a stop to it.

Ninian Lyndsay, Esquire, of Saint Stephen, one of the Overseers of the Fishery for that Parish, described the quantities of fish which formerly ascended the Saint Croix, as something almost miraculous. The fishing in the River was good until a short time after the Union Dam was built ; since which it has fallen off amazingly. Gaspereau have become very scarce indeed, although formerly thousands of barrels were taken in the River. No Shad are now caught above the tide, and but few below. Before 1825, Shad were taken at the Salmon Falls, by a large dip-net, attached to a long swinging pole, like a well-pole. The net was heavily leaded to make it sink in the swift water ; it was then swung round, and it was not at all uncommon to take two or three barrels of Shad at a single dip of the net. Mr. Lyndsay mentioned, that some years since he knew a man who stood on a jam of logs, below the Salmon Falls, with a dip-net, and who, in a single day, caught 118 Salmon ! The whole catch of Salmon, in the Saint Croix, during the past season, according to Mr. Lyndsay's estimate, would not exceed 200 fish, and a proportion of these were Salmon out of season, lingering below the Union Dam, and endeavouring to ascend.

In Mr. Lyndsay's opinion, sufficient fish-ways might be placed in each of the dams on this River, without injury to the Mills or water-power, if the Mill proprietors could be compelled to construct such fish-ways, and keep them free from obstructions. This, he said, was admitted by the Mill owners ; but the law was not sufficiently stringent in its provisions to enable the Overseers to compel the opening of the fish-ways, for which more summary and efficient powers were required. It was also stated by Mr. Lyndsay, that the Fishery Committee of Calais, had expressed their readiness and anxiety to co-operate with the Overseers of Fisheries in Saint Stephen, in

measures for opening the River, and preserving its valuable Fisheries.

An interview was also had at Saint Stephen with William Porter, Esquire, another Overseer of the Fishery there, whose statements were similar to those of Mr. Lyndsay. Subsequently, those Gentlemen addressed a letter to the writer, which is here given in full :—

SAINT STEPHEN, 6th December, 1850.

Sir,—We have received your Circular Letter of 12th August relative to the Fisheries, and in reply beg to state, that from the first settlement of this country up to the year 1825, there was annually a great abundance of Salmon, Shad, and Gaspereau, in the Saint Croix; in fact, so plentiful were the latter, that vessels from Rhode Island, of 100 to 150 tons burthen, followed the fishing business on this River, and were never known to leave without full cargoes. They had establishments on the American side of the River, where they salted the Gaspereau in vats, and repacked them in barrels, for the West India market. There were also several seines belonging to the inhabitants, which were worked in the tide-way of the River, the owners of which put up, annually, from 1500 to 2500 barrels of Gaspereau for exportation, besides a sufficiency for country use.

At the same time, Shad were taken in great quantities; very frequently, more than one hundred would be caught in a small net, in a single night. These fish were also caught in large numbers, at the Salmon Falls, by dip-nets, where also Salmon were taken in abundance.

We have known a lad, fifteen years of age, take 500 Salmon during one season; and we have known one man with a dip-net, at the Salmon Falls, take 90 to 100 Salmon, two days in succession. Up to 1826, these Salmon were sold at four to five Cents per pound; their average weight was about ten pounds each. After the Union Mill-dam was built in 1825, the Fisheries fell off very soon; and continued to diminish until 1846, when that dam was partly swept away. Then the Salmon again got up the River, in considerable numbers, so that in 1848, to the joy and surprise of the inhabitants, they were quite numerous; but the rebuilding of the dam once more stopped them, and they have since diminished both in size and numbers. Very few indeed now get up the River, and we therefore advise, that an Act be passed, at the next Session of the Legislature, giving the power of getting at offenders in a

more summary manner, as it never will do to lose so great a source of wealth, when it can be so readily preserved.

The Grant from the Crown, of the premises on which the Union Dam is built, is subject to conditions, with reference to the passage of fish, which have not been complied with, and it has thereby become forfeited. It is to be hoped, that after your Report is presented, the Attorney General will take steps to enforce the conditions of the Grant, or else to revest the premises in the Crown.

Respectfully yours, &c.

WM. PORTER,
N. LYNDSEY.

To M. H. Perley, Esquire.

The premises on which the Union Dam stands, were granted to Abner Hill, of Saint Stephen, by letters patent, dated 16th December, 1824, which contain very special provisions. There is a recital, that Abner Hill, the grantee, had presented a petition, setting forth that there is a good site for erecting Mills in the River Saint Croix, opposite the dwelling house of Robert Hitchings, at a place commonly called the Middle Landing, which is nearly midway between the Saltwater Falls, so called, and the Falls below the Mills at Mill Town, called the Fishing Falls, and praying a grant of the premises; that the petition had been referred to the Justices of the Peace in the County of Charlotte, to report if there was any objection to its prayer; and that the Justices, in Sessions, had recommended that it should be complied with. The premises described in Mr. Hill's petition were then granted to him under several restrictions and conditions; the undisturbed right of fishing in the River is expressly reserved to His Majesty, and all his subjects. Among other conditions of the Grant, is the following:—

“ Provided also, and this Grant is upon condition, that the said Abner Hill, his heirs and assigns, shall and will cause a good and sufficient fish-way to be made in each and every Mill-dam, which may be erected and constructed, in the said River, on the said premises; and that the same fish-way, or fish-ways, shall always be maintained and kept in such a state of reparation, so that the passage of the fish to and from the Sea may not be impeded by such dam or dams; and also upon this further condition, that a free passage shall always be left for the floating down of ton timber, logs, and other lumber, from the upper parts of the said River, by all and every of Our

subjects. And it is Our will and pleasure, and We do hereby expressly ordain and declare, that in case the said Abner Hill, his heirs and assigns, shall not, or do not, fulfil and perform the said several conditions, in every part thereof, according to the true intent and meaning of the same, then this Grant shall be void, and of no effect, and the land and premises hereby intended to be granted, shall revert to, and revest in Us, Our Heirs and Successors."

In the face of so special a condition, it is really surprising, that the proprietors of the Union Mill-dam should so long have been permitted to evade its fulfilment, to the very great damage, and almost the destruction, of the Fisheries of the Saint Croix. A *Scire Facias* on the part of the Crown, to enquire as to their compliance with the provisions of the Grant, would no doubt quicken the perceptions of the proprietors, as to the necessity of fulfilling those conditions, truly and fairly. Upon the proprietors of the Union Dam must rest much of the blame, for the damage that has been done by obstructing the free passage of fish; although there is no doubt, that the dams higher up in the River, have contributed their share toward the general injury, for which there is such just ground of complaint.

When the Union Dam was visited on the 4th September, there were two Salmon nets set, in open daylight, just below the waste-way; they were both on the British side of the River. One of the nets was a very long one, and the two were so arranged, that it was almost impossible for a Salmon to reach the dam; but, as if to prevent even that possibility, there was also a net on the American side. Not far below the dam, a party of Passamaquoddy Indians were encamped, for the purpose of spearing Salmon by torch light; the fish not captured, were turned back by the nets, and then fell a prey to the Indians. At this late period of the year, the Salmon were, of course, out of season, quite black, and almost worthless. If this state of things is permitted to exist during another season, the last remnant of the once valuable and extensive Fisheries of the Saint Croix will be wholly extinguished.

The two great Branches of the Saint Croix, with their numerous tributaries, and the large Lakes at the head of each Branch, present every variety of River, Lake, and Stream, adapted to the breeding and feeding of fish. When this is considered, it is not at all surprising, that such great and

almost incredible bodies of Salmon, Shad, and Gaspereaux, as are described by every old resident, should have passed through the narrow gorges of the Lower Saint Croix, in their annual migrations from the Sea. The wide-spread extent and the magnitude of the inland waters connected with the Saint Croix, are so well adapted to the propagation of fish on a large scale, and are such favorite places of resort for all that can reach the ancient haunts of the various species, that it will be highly discreditable to allow the extinction of the Fisheries of this River, now threatened with total annihilation.

FROM POINT LEPREAU TO THE HARBOUR OF SAINT JOHN.

There are several harbours, and inlets, along this line of coast; but owing to its rocky and rugged character, the settlements are limited, and the inhabitants are not numerous. There are no regular fishing establishments; the settlers, in connection with the cultivation of the soil, follow fishing, chiefly with the view of supplying the market at Saint John with fresh fish.

The principal fisheries are those for Cod and Herrings; small Haddock are also taken during the Summer, but Hake and Pollack are comparatively rare. Along the coast from Point Lepreau up to Negro Head, just below the entrance to Saint John, Cod are taken with the long-line (or bultow) from Christmas until the first of June; the best fishing is in April and May—after that, the Cod follow the English Herrings (*clupea elongata*) up the Bay. The long lines, or bultows, with 350 to 600 hooks, are set at the distance of one to two miles from the shore, in about 18 fathoms water. The hooks are on snoods, 3 feet in length, which are placed 7 feet apart on the "back," or long line.

In the Autumn, when the Herrings again appear along this shore, Cod are taken with hand-lines, on the "slacks" of the tide. In November last, fine Cod averaging about 30 to the quintal, were taken by hand-line fishing, between Musquash and Lepreau. At that time, very fine Herrings had made their appearance, requiring nets with 2½ inch mesh; these continued to increase in numbers until January,—and while this Report is being written, they are taken daily in considerable quantities. The appearance of large bodies of Herring so close to the shore, during the depth of Winter, is an unusual circumstance; in general, they do not approach this coast until

the latter part of Winter, or in early Spring, and then only in moderate numbers.*

The fishermen of Saint John also prosecute the fisheries for Cod and Herring on this shore, in their own boats and vessels, whenever fish are to be had. During the early part of Summer they also drift all along this coast, at some distance from the land, for Salmon, while later in the season, they drift over the same ground for the Sea Shad, then on the way to their feeding grounds in the upper part of the Bay.

There is an abundance of Lobsters about Dipper Harbour, from which place the Saint John Market is principally supplied; they are not large, rarely exceeding three pounds weight, and sell at three pence to six pence each, according to the season and the supply brought in. If better arrangements were made for bringing these Lobsters to market, and for keeping them alive, when brought in large quantities, they could be sold even at less prices, with greater profit to the fishermen than at present.

FISHERIES WITHIN THE HARBOUR OF SAINT JOHN.

The fisheries within this Harbour belong to the citizens of Saint John, by a special clause in the Royal Charter incorporating the City, and are therefore under the management and control of the Common Council, subject, however, to such enactments as are made by the Legislature, for the general regulation of the fisheries of the Province.

The various fishing-berths, or lots, within the Harbour, are disposed of annually among the freemen of the City, and the widows of freemen, being residents, by lottery. The lots on the eastern side of the Harbour appertain to the freemen on that side; while those on the western shore, belong exclusively to the freemen residing there, in that part of the City usually designated as Carleton. There are from eighty to one hundred lots, on each side, which possess some value; varying from number one, of late years worth about £40, down to number eighty, which may be worth a dollar, or even less.

The mode of disposing of the fishing lots in this Harbour is highly objectionable, and in direct violation of the principles of the Provincial enactments, which strictly prohibit lotteries in

* While this Report is being printed, Mr. John Sandall, of Saint John, writes as follows, under date 17th March, 1851:—"At present, we are taking Herrings, in nets of 2½ and 2½ inch mesh, in great abundance. I have never known them to be so plentiful at this season of the year. I should imagine, that from 3000 to 4000 barrels have been taken within the last three weeks—the poor fishermen have great reason to be thankful."

en only in
 heries for
 d vessels,
 t of Sum-
 ance from
 drift over
 y to their

r Harbour,
 pally sup-
 ee pounds
 ccording to
 angements
 et, and for
 ities, they
 rofit to the

JOHN.

citizens of
 ter incorpo-
 gement and
 er, to such
 the general

harbour, are
 ty, and the
 The lots on
 freemen on
 exclusively
 City usually
 to one hun-
 ue; varying
 40, down to
 ven less.

s Harbour is
 principles of
 lotteries in

writes as follows,
 nets of 2½ and 2¾
 tiful at this season
 n taken within the

every form—this fishing lottery being alone excepted. When the City was first settled, sixty eight years ago, and the population consisted of a few hundred families only, of whom very many were engaged in the actual business of fishing, it may have been very proper to dispose of the fishing stations among them by lot, as the most simple and equitable mode of annual distribution. But the reason has ceased long since. The wealth of the City has become very considerable, and its population has increased to 20,000, and upwards. The fishing lots are now purchased by the fishermen from those citizens, or widows of citizens, who are fortunate enough to draw good numbers in the lottery; and it is not at all uncommon for the wealthiest persons in the City to be waited upon by the hard-working fisherman, to know at what price they will sell their "prize in the fishery." The sums received by persons in easy circumstances for prizes in the fishery, are too often treated as other "prize money," and wasted in the like manner.

Instead of distributing the fishing lots, as at present, in a manner which does the least possible amount of good, and inflicts positive evil by inducing the spirit of gambling, with all its attendant evils, it is proposed by the writer, that the fishery numbers shall be disposed of annually by auction, and the proceeds applied to the formation of an educational fund, for the establishment and support of a *Public Free School*, in which the children, or orphans, of citizens, shall have a preference over all others.

There may, perhaps, be other objects of public utility, to which the fund arising from the annual sale of the fishing lots might be judiciously applied; but there are, probably, few which could be suggested, that would do more real good, or meet with more hearty and cordial approbation from the great body of the citizens, than that which is now proposed. It is believed to be only necessary to draw the attention of the citizens of Saint John to the existing evil, and point out in what way it may be turned to a great public good, in order to have the object effected.

The fisheries of the harbour are those for Gaspereau, Shad, and Salmon, which enter it for the purpose of ascending the River Saint John to their usual spawning grounds. The Gaspereau, (*alosa tyrannus*) enter the harbour about the 10th of April, or very soon after. The first of these fish was taken last year on the 13th April; on the 22nd they were abundant, and the fishing continued until about the 10th June. The Shad (*alosa sapidissima*) make their appearance about the middle

of May; these are closely followed by the lordly Salmon, (*salmo salar*) which continue to pass in large numbers until the first of August, although some, chiefly grilse however, continue to be caught in the weirs until the end of that month.

The following letter from John Sandall, Esquire, who has long been actively engaged in the fisheries, contains much valuable information in a condensed form:—

Saint John, N. B., 21st January, 1851.

SIR,—In reply to your circular of 12th August, I beg to state, that the Gaspereau or Alewives, Spring Shad, and Salmon, are taken in this harbour by weirs and drift-nets. The weirs are made by setting up nets of about 24 inch mesh, upon tall poles. A great many Salmon are taken outside of Partridge Island, in the Bay, by drift-nets. The fall Shad are all taken in the Bay, during the night, also with drift nets. The drift-nets for Salmon and Shad, are 40 meshes deep, and each boat has 200 fathoms of net.

I cannot say much about the Cod, Pollack, or Mackerel fisheries, as it has been found, that they will not pay out of this harbour.

The Gaspereau fishery commences with us, as soon as the river opens, and continues about six weeks; this fishing depends in a great measure on the Spring freshet. The Spring Shad come in about the middle of May, but this fishery is of little consequence. Salmon fishing begins the middle of June, and continues until the first of August, but the weirs catch a few up to the end of that month.

The greater part of our Gaspereau are shipped to Boston, and all our Salmon are sent there, either packed in ice or smoked, and we have to pay a duty of 20 per cent.

Herrings are taken around Grand Manan and West Isles, by torch-light, and by brush-weirs; these weirs must destroy a great quantity of Fry every season.

The Herrings and Gaspereau, as soon as possible after being caught, are placed in casks for the purpose of being "struck," as we call it; when sufficiently salted, they are packed in barrels, which should contain 200lbs. of fish, by the inspection law, but the law itself appears to have become a dead letter. It is desirable that we should have a good strict inspection law; it would perhaps cost us some six pence or nine pence per barrel more than at present, but I am confident we should be gainers by it.

I know of no fish being used as manure, but it is notorious

that the whole of the Bay of Fundy is fished by vessels from the United States.

The fishery in this harbour is gradually falling off, as I believe, from the great quantity of saw dust thrown into the harbour, and the erection of saw mills, and mill dams, on the different streams falling into the Saint John, to which the Salmon and Gaspereau usually resort to deposit their spawn.

I would also mention, that in my opinion, the deep-sea fishing will never be followed to any extent in this Province, unless there is some encouragement granted to our fishermen in the shape of bounty, and also protection, by compelling the Americans to fish within the Treaty limits. Gentlemen may talk about American enterprize, but give us an equal chance with them, and if we do not match them, it is our own fault. The American Government not only grants their fishermen a bounty, but also a heavy protection, in the shape of duties on foreign-caught fish; and when you consider, that all our fish have to go to the States for a market, is it any wonder we cannot compete with them?

I believe you are aware, that most of the young fishermen of Grand Manan, are removing to the United States, in consequence of the high wages given them for their skill in fishing, and as Pilots in the Bay of Fundy.

Your obedient servant,

JOHN SANDALL.

M. H. Perley, Esq.

In addition to this letter, Mr. Sandall has been good enough to furnish the following, as his estimate of the value of the fisheries in the harbour of Saint John during the season of 1850:—

32,000 Salmon, which brought 5s. each,	£8,000
14,000 barrels of Gaspereau at 15s. per barrel,	10,500
The Shad-fishery amounted fully to	1,500

Total £20,000

The prices thus stated by Mr. Sandall, are those obtained by the actual fishermen, and at least twenty five per cent. must be added for the net prices received from abroad by the dealers, for the same fish. The persons who packed the Salmon, in boxes with ice, for the Boston market, last season, paid to the fishermen an unvarying contract price, of five shillings for each fish, whether large or small; and there is good reason to believe, that the same fish sold at the average price

of ten shillings each, in Boston. The price of Gaspercau, especially if well cured, was in the same way, 17s. 6d. per barrel. Mr. Sandall states the price obtained by the fishermen, after deducting the expense of the barrels and salt.

The Shad which pass up the river in the Spring, are spawning fish, of large size, heavy with roe, and very thin. As a matter of course, these fish have but little flavour, as compared with the fat and luscious sea Shad, taken in the Autumn, and are scarcely worth salting. The value of the Shad fishery, stated above by Mr. Sandall, is that for sea Shad, taken outside the Harbour, by drifting during the night; Shad so taken, although of very fair quality, are, however, inferior to those caught at the head of the Bay, which are fully described in the subsequent part of this Report. It is much to be regretted, that the Spring Shad should be caught at all; they are of little value when taken, and their capture, by destroying the breeding fish, tends greatly to the injury of the valuable Shad fishery of the Bay, which ought to be most carefully preserved and protected.

There can be no doubt, that the large quantities of saw-dust and rubbish from the saw mills, which have been cast into the harbour of late years, have been highly detrimental to the fisheries, and most injurious to the harbour itself. The writer's official duties, as Emigration officer, during the last eight years, have rendered it necessary for him to be much afloat within the harbour every season, and to visit Partridge Island at its entrance very frequently. The damage done to the harbour within that period, and the injury to its navigation especially for large vessels, can scarcely be appreciated by those who have not watched its progress, or examined its results.

The great floods of the Saint John, occasioned by the melting of the snow and ice at the close of winter, or by heavy rains at other periods, bring down large quantities of fine silt, or alluvial matter, rendering the water at those periods extremely turbid. This alluvial matter encounters the saw dust in the harbour, and jointly, they form a deposit, which soon attains much solidity wherever it happens to rest. The western channel into the harbour has shoaled very considerably, as well from the deposit of silt and saw dust, as the aggregation of slabs, rinds, and edgings, also sunk there; while the bar at the eastern end of Partridge Island, is found to extend and increase year by year, threatening to damage the eastern channel very considerably.

It is the opinion of several competent persons, that an expenditure of £10,000 would not probably bring those channels into the same condition and fitness for navigation, as existed prior to 1840. Notwithstanding the able and careful report of the Commissioners appointed to enquire into the saw dust nuisance in the harbour of Saint John, (printed in the Appendix to the Assembly Journals for 1849) the evil will probably continue to increase, until the Legislature is called upon to make a large appropriation for improving the navigation of this fine harbour, which must be done at no very distant day, if the present state of things is allowed to continue.

The weirs in the Harbour of Saint John, as described by Mr. Sandall, are made with nets stretched on long poles, and they are all dry at low water. From the beach, at high water, a net is stretched out toward low water mark, at right angles to the shore; this is called a leader—it serves to conduct the fish through narrow openings, into the circular chamber, also formed of nets on poles, from which they are taken when the tide is out. This description of weir is sometimes called a "fyke,"—nothing can escape from it, unless it be so small as to pass through the meshes of the net.

Great quantities of Gaspereau and Salmon are taken in the Harbour by drift nets; and although this mode of fishing is prohibited by law, yet it is openly followed in broad daylight. Some years ago, attempts were made by the Overseers of the Fishery, to prevent drifting in the Harbour; but latterly they have looked on quietly, and allowed the fishermen to do as they pleased.

The Common Council have, more recently, gone a step further. By a bye law for regulating the fisheries within the limits of the City of Saint John, passed by that body on the 4th December last, it is provided, that "no drift net shall be used after the tenth day of June, in any year, for the purpose of catching fish, in any part of the Harbour of Saint John, on the westerly side of Partridge Island, nor within, or to the northward of straight lines to be drawn, the one from a point commonly called Black Point, on the western side of the said harbour, to the most westerly point on the said island, and the other from the most easterly point on the same island, to a point called Lower Battery Point, on the eastern side of the said harbour, under the penalty of Ten pounds for each and every offence."

This bye-law, by implication, sanctions the use of drift-nets up to the 10th day of June in each season, and is believed to

be in direct violation of the Acts of Assembly relating to the fisheries.

The use of nets on the Sabbath, is prohibited by the law of the Province, and although drift-nets are not generally used on that day within the harbour of Saint John, yet it is not at all unusual to see them employed on the Sunday, by parties who appear perfectly indifferent to public opinion, for no other force is used to prevent this desecration of the Sabbath. The weirs are fished on that day, as on other days of the week, and they generally get a better catch on Sunday, owing to the drift-nets being less used.

In Ireland, where this description of weir is much employed for Salmon fishing outside, or to seaward, of the mouths of rivers usually frequented by Salmon, it is required by law, that the nets shall be lifted out of the water at the first time of low water after Saturday at noon, and they must not be set again, until after sunrise on Monday morning.*

This wholesome and judicious regulation ought for a variety of reasons, to be strictly enforced at Saint John; and it is somewhat surprising that "The City Fathers" should have neglected this very important provision in their bye law.

If the citizens of Saint John desire that laws should be made and strictly enforced, for the protection and preservation of fish after they have ascended the Saint John, and reached their spawning grounds in its tributaries, they must set the example of obedience to the laws within their own limits, by fishing in a fair and proper manner, and only during six days of the week. The fishermen of Saint John exclaim loudly, and not without cause, against mills, mill-dams, and other obstacles to the free passage of the fish up to their spawning beds; they denounce in the strongest manner, and very justly, the practice of taking Salmon by torch and spear, after reaching those beds, and when out of season; they deprecate in unmeasured terms, the casting of saw dust and mill rubbish, into streams frequented by spawning fish, which is undoubtedly productive of serious injury to the fisheries, by diminishing the propagation of the various species which breed in fresh water; but at the same moment, they are very likely prosecuting the fisheries at the entrance of the Saint John every day in the week, Sunday not excepted, and by modes of fishing, which in some respects, are equally objectionable, as well as illegal.

* See Brabazon on the Deep Sea Fisheries of Ireland, page 55, where also will be found a description of this mode of fishing, with drawings of the nets, and the manner of arranging them.

THE RIVER SAINT JOHN AND ITS TRIBUTARIES.

The Gaspereau and Shad rarely ascend the Saint John higher than Fredericton, about 80 miles from the Sea,—four miles above which the swift water and strong rapids commence. Their favourite places of resort are Darling's Lake, (a part of the Kennebecasis River,) the Ocknabog Lake, the Washademoak Lake, the Grand Lake, and the Oromocto River; all pieces of water rather sluggish in their character, and, generally with muddy bottoms. In passing up the Rivers to their spawning grounds, many Gaspereau and Shad are caught by the inhabitants, chiefly during the night, in set nets.

Salmon proceed up the Saint John to the Grand Falls, upwards of 200 miles from the Sea; and they ascend many of its branches and tributaries, for very considerable distances. The writer, at various periods, and at different seasons of the year, having traversed the Saint John, from Partridge Island to the head of Lake Temiscouata, (about 300 miles) and proceeded up nearly all its principal tributaries, generally in light canoes, is enabled to offer a general view of the state of the different Rivers usually resorted to by spawning fish from the Sea.

The first River which the fish enter, after passing the Falls above the Harbour of Saint John, is the Kennebecasis, flowing in from the eastward. Salmon ascend the main stream to Sussex Vale; and also the Hammond River, one of its branches, to Titus' Mill-dam, which has no fishway, and stops their further progress upward to their former spawning grounds, very far up that River. From Darling's Lake to Titus' Mill-dam, on this tributary, and from Hampton Ferry to the head of Sussex Vale, on the main stream, the Salmon are hunted and destroyed, in every possible way, by nets, and with torch and spear,—in season, and out of season. The inhabitants appear to be actuated by an insane desire to destroy every Salmon which appears in these Rivers; and no sooner is it reported, that Salmon have been seen, in any particular pool, than the whole neighbourhood is in commotion, with preparations for their destruction—the fish are pursued with untiring zeal, until all are captured, except a very few, which, perhaps, escape to some place of shelter and safety.

The next River, in ascending the Saint John, is the Nerepis, which falls in from the westward. This is a swift-flowing River, with a rocky and gravelly bed. In the summer season, there is but little water in it; but it is subject to sudden floods, from the high hills in its vicinity, which pour down great bodies

of water after rain storms. Fortunately, there are no Mill-dams on this River, and therefore, no obstruction to the free passage of fish. The spawning-grounds are far up the Nerepis, in secluded places, near springs of very cold water; and, as the Salmon are able to reach these distant spots, they breed in comparative safety. There is a valuable Salmon Fishery near the entrance to this River, at Brittain's Point, (Alwington Manor,) where, from 1500 to 2000 Salmon have been taken annually, for a long succession of years.

The Washademoak is next in order, ascending; it enters from the eastward. Gaspereau and Shad go into the Lake; but Salmon pass through it, and ascend the New Canaan River, which feed it. Here they are caught in considerable numbers, without regard to season; but it is believed that many fish are bred in these waters.

The Jemseg is a narrow, deep channel, which connects the Grand Lake with the River Saint John; its entrance is three miles above Gagetown, flowing in from the eastward. Salmon pass through the Grand Lake, in order to ascend the Salmon and Gaspereau rivers, at its eastern extremity. The Gaspereau River is now barred at its very entrance by a Mill-dam, which wholly excludes fish from that River. The Salmon River was also barred by a dam for some years; but this was swept away by a flood, about seven years ago, and Salmon have returned to the River in large numbers, as it is a favorite breeding place. They are, however, poached and destroyed in every way, throughout the entire season, both by Indians and lumbermen, in every part of this fine stream, up to the Richibucto Portage, and even beyond it.

The Oromocto, as its name implies, is a deep river, entering the Saint John from the westward. For twenty miles, or more, it is navigable for vessels of sixty tons burthen, or river steamers of large class. Then it separates into two branches, both flowing from large lakes, up to which, Salmon, Shad, and Gaspereau, formerly ascended; but now they are prevented by mill dams, on each branch, at short distances above navigable water. The dam on the South Branch has no fishway, and that on the North Branch has a sort of sluice, intended as a fishway, but it is not sufficient. Many Gaspereau have been caught below this dam, while struggling to get up to the Oromocto Lake, formerly a favorite haunt.

The Nashwaak flows into the Saint John from the eastward, nearly opposite the City of Fredericton. Salmon formerly ascended this river, for forty miles or more, but are now

prevented by the substantial mill dam which crosses the river, from bank to bank, about three miles from its mouth. From the vigour with which the Salmon have been persecuted below the dam, while struggling to ascend, very few are now taken in the river, and shortly, they will cease entirely to frequent its bright and swift-flowing waters.

Between Fredericton and Woodstock, several small tributaries enter the Saint John, from both sides, in most of which there are mill-dams. The Maduxnakeag, at Woodstock, formerly abounded with Salmon; but the mill-dam at its mouth now excludes them altogether. The Begaguimic, above Woodstock, is also closed by a dam at its entrance; while other small rivers, up to the Tobique, are also obstructed, in a greater or less degree.

The Tobique is a magnificent river, which waters a wide extent of country, east of the Saint John. A mill-dam which was erected at the Red Rapids, about fourteen miles above its mouth, was cut away by the lumbermen, because it obstructed the navigation, and was therefore a public nuisance. There is nothing now to prevent Salmon ascending this river, and very many still go up it every year; anciently, they passed up in thousands. There is an Indian village at the mouth of the Tobique, which is the principal settlement of the Micmacs of the Saint John; and these Indians, aided by lumbermen, and poachers of all shades, from every clime and country, pursue the Salmon up to the very sources of the river, and destroy them by every species of contrivance, without the slightest regard to season, or the condition of the fish.

The Arestook is another noble tributary of the Saint John, entering it from the westward, about two miles above the Tobique, on the opposite side. Owing to some lofty falls on this river, about four miles from its mouth, and within British territory, Salmon can ascend it no further, and here also, they are subjected to great slaughter. Very few Salmon ascend the Saint John above the Arestook, although some occasionally reach the basin below the Grand Falls; when they do, they are netted and speared in such an effective manner, that few ever escape.

From this brief notice of the principal tributaries of the Saint John frequented by Salmon, it will be seen how greatly fishways are required in the various mill-dams, and the necessity that exists for some superintendence over these rivers, as otherwise, the breeding fish will be wholly destroyed ere many years elapse, and the valuable fishery in the Harbour of Saint

John, and along the lower part of the river, will scarcely exist.

The attention of the fishermen of the City of Saint John is especially directed to this important matter; they, and all others interested in the preservation of the Salmon fishery of the Saint John, now exceedingly valuable, and yearly becoming more so, should exert themselves, by all legitimate means to maintain, and if possible, increase the fishery. A small subscription might be set on foot, to send fit persons up some of the principal rivers, especially the Nerepis, the Salmon River at Grand Lake, and the Tobique, to prevent the destruction of breeding fish there. Under proper enactments, and efficient management, great good would speedily arise, without any very serious expense. The numbers of Salmon would be found to increase, as rapidly as they have done in those rivers of Ireland and Scotland, which, when nearly exhausted, have been again filled with fish in abundance, after a few years watching and preservation.

FROM THE HARBOUR OF SAINT JOHN EASTWARDLY TO CAPE ENRAGE.

This line of coast is generally bold, and rocky; up to Point Wolf it is fully entitled to be designated an "Iron-bound shore." The harbours are few and small, and accessible only at high water, or a little before. There are no regular fishing establishments; and fishing is followed by the Settlers on the coast, in an irregular and desultory manner, just as fish happen to strike in, or as it suits their convenience.

The first inlet east of Saint John, is Port Simonds; at its head it receives the Mispick River, which flows out of Loch Lomond. Formerly, Salmon ascended the Mispick and were caught in the Loch; but they were wholly excluded from the River about twenty five years ago, by mill-dams just above the tide-way, and none have since been seen in it. Occasionally, some few Salmon are yet caught in the Port, as also Herrings. In June and July, there is tolerable line-fishing for Cod and Pollack, near Black Rock, at the "slacks" of the tide.

Cape Spencer is a bold promontory stretching out into the Bay, and causing a very powerful race, or tide-rip. In the season, Pollack may be taken in this race in great numbers, but it is considered a dangerous fishing ground. Beyond Cape Spencer, the shore is bold and lofty to Black River, which finds its way to the Sea, through a very narrow gap with high cliffs,

on either side. There is a solid Dam without a fish-way across Black River; beyond this, the shores are not so high, a narrow slip of the red sandstone formation commencing a little east of Black River, and continuing about eight miles along the coast, being in that distance intersected by Emerson's Creek, and Gardner's Creek. Up both these Creeks, Salmon formerly ascended to spawn; but mill-dams, without fish-ways, now exclude them. At Gardner's Creek, there is an exceedingly fine farm on the red sandstone formation, occupied by Messrs. Dewar, which is in a high state of cultivation. Mr. Peter Dewar stated, that Capelin come in on this shore early in June; he has seen them in great abundance, at various periods, not only here, but also at Quaco. When the Capelin are in, Cod are also abundant; but after the Capelin leave, Haddock only are taken during the summer, but they are very numerous. Herrings strike in here every season, but the quantity varies greatly. During the season of 1850, Messrs. Cunningham, who live to the eastward of Gardner's Creek, caught twenty five barrels of Herring with one net only, twenty fathoms long and one hundred and twenty meshes deep—the mesh two and a half inches. The Herrings make their appearance about the 15th of June, or soon after, and the fishing for them continues until the end of August; they are full fish, nearly ready to spawn. No Shad have been caught, but Mackerel are occasionally taken in the Herring nets. During August, every year, Messrs. Dewar have set a Salmon net at the entrance to Gardner's Creek, and caught two or three Salmon every night. Lobsters are very abundant; almost any quantity may be taken, with proper nets or pots.

The entrance to Teignmouth Harbour, better known as Ten Mile Creek, is very narrow; the Harbour is dry at low-water; at high tide, there is sixteen to eighteen feet water. The lower dam on this Creek, is one mile from the Sea; it is said that Salmon may get over this dam, but they can ascend no further than the second dam, only half a mile above the first, as that effectually bars their progress. The Harbour was visited on the 17th September; a Salmon net was then set completely across the entrance, so that not a fish could enter. Within the Harbour, Messrs. Lovett and Parker were building a Ship of 800 tons. Mr. Lovett said, that fish were abundant at Teignmouth; formerly they had a spring-weir across the mouth of the Harbour, but it was carried away the previous spring, and had not been repaired; it secured a great many Herrings, as also Salmon and Cod. This spring-weir consisted

of a strong net, stretched on stout poles ; it lay flat upon the bottom while the tide was flowing, and at high-water it was "sprung," or raised to a perpendicular position, by powerful capstans. Messrs. Lovett and Parker caught one hundred and fifty Salmon during the past season, at the entrance to the Harbour, from twelve pounds to twenty one pounds weight each ; they also took a number of Grilse. The first Salmon are usually taken at the end of July ; but the fishing for them continues as late in the season as any can be caught. Lobsters are abundant here ; Capelin have been often taken in the weir, and also very small Gaspereau, but no large ones. Mr. Lovett gave it as his opinion, that a very good Fishery might be established here. One year the firm had no Ship on the stocks ; they turned their attention to the Fishery during that season, and succeeded very well. They fished at Stanley's Cove, (about two miles west of Teignmouth,) and caught one hundred barrels of Herrings ; they had only two nets of thirty fathoms each, with a mesh of two and a half inches. At Roger's Pond (two miles east of Teignmouth) they found good line-fishing, at a quarter of a mile from the shore ; Cod were plentiful during June, and after that, came Pollack and Haddock. Large Halibut, some of them weighing six hundred pounds, were also taken on this ground.

In the roadstead of Quaco, and off the Head, the fishery is of the same general character as that just described. Besides line-fishing occasionally, Herrings are taken in nets, and also in weirs ; but the inhabitants are so actively and earnestly engaged in Ship building, which is carried on extensively at Quaco, that they have little time for fishing—and from the want of shelter during south easterly gales, the place is not visited by fishing vessels.

At Great Salmon River, there is a small but very safe harbour for small vessels, within a high sea-wall of gravel ; but it can only be entered at high water. The River is a large and powerful stream ; for nine miles from the Sea, it rushes with much impetuosity through a deep, narrow gorge in the hills, the cliffs on either side rising to the height of 600 to 800 feet. Beyond this gorge, the River flows more gently, through an undulating country, with much good land, exceedingly well timbered.

Just where the River makes its final leap into the Sea, there is a solid dam from bank to bank, upon which there are two double Saw-mills ; a quarter of a mile above, there is another dam of similar character, upon which there is one single saw-

mill. In neither of these dams is there any fish-way, and fish are therefore wholly excluded from the River.

Mr. Patterson, who has charge of the Mills here, said the River formerly abounded with Salmon, and thence derived its name; now, none whatever are taken in it. There is a waste-way for surplus water at the eastern end of the lower dam; and Mr. Patterson admitted, that a fish-way might be placed there, without damage or inconvenience, as also at the eastern end of the upper dam, the situations being almost precisely alike. Outside the harbour, on the sea-beach, Mr. Patterson has a small weir; during the last season, he caught 36 Salmon in it, as also some Herrings, and a few good Shad. Capelin appear in June, and while they remain, there is good line-fishing for Cod, off the harbour, at very little distance from the shore; during the summer, Pollack and Haddock are taken, but there is no line-fishing during the autumn.

Long Beach is about two miles above the entrance to Great Salmon River; there are three families settled close to the beach, who fish a little and farm a little, but do neither effectually, and they appeared in great poverty. A very long and wide gravel bar juts out into the Bay, which is left entirely dry at low water; between this and the shore, wholly within the bar, is a mud-flat on which stands a brush-weir for taking Herrings. It is built in an irregular semi-circle, and is about 200 yards in length; in the centre it is five feet high, gradually diminishing to one foot at each end. Herrings are usually abundant at this place during the month of July; they are then full of spawn, which does not attain its full size until August—after that, it is supposed they spawn on the coast. During the season of 1849, Herrings were unusually abundant here, but the settlers had no salt to cure what were taken in the weir; they gave away Herrings to every body that would come for them. One tide, they gave away five large boat loads to people from Quaco, reserving 30 barrels for themselves; but these all spoiled before they could procure salt.

The settlers here (Jabez Wright, and two families named Tufts) cured sixty barrels of Herrings from the catch of this weir, during the season of 1850; these, on examination, were found to be the true Herring, from 10 to 12 inches in length, and of very good quality.

It was stated by Jabez Wright, that in former years, during the month of June, he had seen the Capelin come on shore here in "windrows"—the Pollack would pursue them up to the very beach, upon which the Capelin came in with the surf to

spawn, as is their custom—for the last two years, they have not been so abundant. There is good line-fishing for Cod, at very little distance from the beach, during June and July; after that, some Haddock and Pollack may be taken—Hake are rare, and Halibut are only caught occasionally.

Long Beach appeared to be one of the best stations on this line of coast for prosecuting the Herring fishery, or for line-fishing. Besides the insufficiency and small size of the weir, it has a water-gap near its centre, to let out the waters of a brook, which flow through it; and it is only when the fish are sufficiently abundant to choke this gap, that any quantity can be taken. The situation is recommended to the attention of fishermen seeking a location. No set-nets have yet been tried here; it is supposed that sea Shad might be caught by drifting, as they are frequently found in the weir.

The settlers here said, that before the dams were built across Salmon River, the fishing was excellent, and persons came from all parts to catch Salmon there. One man had caught as many Salmon there, during a single season, as sold for £90; and during another season, fifteen years since, Wright and the Tufts caught 40 barrels, while some others who fished in company, caught 20 barrels more—now, not a single Salmon is caught in the river!

Little Salmon River was next visited; it is very similar in its character to the larger river, but its banks are even more lofty, being said to be at least 1000 feet high in some places. The mill-dam is about half a mile from the sea, and it effectually precludes the Salmon from ascending as they did formerly. The mills and buildings are in a very picturesque situation. Directly behind the dwelling house of Mr. M'Donald, who manages the mills, there is a very steep hill, whose summit was stated to be 1500 feet above the sea. There is a road to the interior, which rises from the mill-pond, by zigzags, up the side of another thickly wooded hill, to the height of 600 feet; by this road there is a communication with Sussex Vale, through the valley of Trout Brook.

Mr. M'Donald said he had only caught one Salmon during the season, and that was accidentally left in a pool below the mill, by the ebb tide. He has a small Herring weir on the beach, near the mouth of the river, in which he caught 16 barrels of Herrings during the season of 1850. In 1849, he frequently let out 100 barrels on a tide, having no salt to cure them. There is very fair line-fishing off this river, but there is nobody to pursue it.

The singular bluff known as Martin's Head, is connected with the main land by a long gravel beach, which is well adapted for fishing purposes; there is also a fine farm, but it is now tenantless. There is good line fishing off the Head; in July last, two boys in half an hour loaded a boat of 16 feet with Cod. There was formerly a large brush weir at the beach; last season the mill-men at Goose Creek put some nets upon its remains, and caught a fair supply of Herrings. It is to be regretted, that so good a farming and fishing station as Martin's Head, should remain unoccupied.

At Goose Creek, about three miles above the Head, there is, as elsewhere, a mill-dam which wholly prevents the passage of fish. This dam was built twelve years ago; before that time, Salmon ascended the stream in considerable numbers, but of late years, none whatever have been seen, even at its entrance. Herrings are taken occasionally near the mouth of the creek, but the fishing is only followed when the settlers have no other occupation—one person here builds a vessel occasionally, the rest are engaged about the mill, and in lumbering.

At Goose River, a few miles above the creek, there is a safe harbour for small vessels, which can lay aground at low water without damage. At the lowest neap tides, a vessel drawing nine feet water can enter this harbour; the channel is eighty yards from the base of the cliff on the western side, from which it draws over to the high gravel bank on the opposite side; passing this, the basin is entered; in any part of it vessels may be grounded safely. Two small rivers fall into the basin, but now, Salmon can go up neither; there is a mill-dam on one, and the remains of a dam and flume on the other which effectually stop them. There are four settlers at this place, who have their farms on the elevated plateau, or table land, at the top of the steep hill on the eastern side of the river. The principal settler is Brian Doherty, from whose log house there is an exceedingly fine view, with Isle au Haut and Cape Chignecto in the distance; the ascent to the settlement is exceedingly steep, but the land when reached, is of good quality, and appeared to yield an excellent crop—the cleared land is probably 500 feet above the level of the sea.

The settlers said, that for two miles up each branch of the river, the banks are lofty and precipitous; beyond that there is a fine stretch of good land, not stony, and covered chiefly with hard wood—through this there is every facility for a good road, towards the Mechanics' Settlement, crossing the Shepody road. They stated that there was good line fishing off the harbour

for Cod, Pollack, and Haddock ; of the Cod, 35 to 40 fill a barrel, and the Pollack are even larger. The fishing begins as early as 5th May, and continues until the end of July ; before they can procure Herrings for bait, they use small trout, which the boys catch with rod and line in the river ; Trout are abundant, but they rarely exceed half a pound in weight. During the past season they caught seven barrels of Salmon at the entrance of the harbour, with a small brush weir and a short net.

As Goose Harbour can be entered by coasters soon after half-tide, and is sheltered from every wind, it is very desirable that some distinguishing marks, or beacons, should be set up to denote its entrance. There is very little doubt that a profitable fishery might be established at this place, by competent persons possessing sufficient means.

Point Wolf River is a large stream, of similar character with that of the other rivers of this coast. Like those rivers also, a substantial and rather lofty mill-dam prevents all fish from ascending, although many Salmon yet enter the large basin beneath the dam. The saw mills are on an extensive scale ; they belong to Messrs. Vernon, of Saint John, who procure their supply of logs within twelve miles of the mills. Owing to the difficulty of floating down logs in 1849, from the want of water, the millmen were idle during part of the summer ; from lack of other occupation, they were employed in constructing a weir on the flats, within the bar. In this weir, nearly 500 Salmon were caught during that season ; of these, 21 breeding fish, heavy with spawn, were taken alive, and carefully conveyed, in casks of water, to the river above the dam, into which they were turned without injury. This was a very judicious step toward preserving the Salmon fishery of this fine river ; but it is greatly to be regretted, that Messrs. Vernon have not already set up, and maintained, a sufficient fishway. The supply of logs decreases annually, and after a time, will cease altogether ; but if the Salmon are preserved, they will prove a source of wealth, long after the saw mills are worn out and useless.

The weir having been carried away by ice, no Salmon were caught during the season of 1850 ; and the mills being in full operation, no other fishing was carried on, although Herrings and Cod were to be had outside the entrance to the harbour.

An entire change in the geological character of the coast, begins at Point Wolf. The trap, syenite, felspar, and porphyritic rocks, which, up to this Point, chiefly compose the rugged and precipitous cliffs fronting upon the Bay, here give way to

the sandstones of the coal measures ; and this formation continues without interruption to the shores of the Gulf of Saint Lawrence. With this geological change, there is also a change in the character of the fisheries ; the coincidence is somewhat remarkable, although perfectly natural. The Cod delight in clear water, over a hard bottom ; while the Shad rejoice in muddy waters, and especially delight in the extensive mud-flats of the upper part of the Bay, from which they procure the food that renders them so excessively fat and delicious.

At Herring Cove, just above Point Wolf, there is very fair Herring-fishing during the season ; from this Cove a new road has been laid out, and lots surveyed for settlement on the labour system. This road passes through some back settlements, and is continued to the Pollet Lake in the Mechanics' Settlement ; it will, when completed, be of much value to the settlers in the forest, by enabling them to reach the Coast with their produce, at a place where it can be shipped to market, and where they may procure fish of the best quality to be carried into the interior.

A little to the eastward of Herring Cove, is a small settlement, called Cannon Town Beach ; and here for the first time in going up the Bay, a regular Shad-fishery was found. At this beach, there are two brush weirs expressly for taking Shad ; formerly Herrings were plenty at this place, but they have been very scarce during the last seven years. There are 14 shares in the weirs at Cannon Town Beach ; and each share gets about 8 barrels of Shad annually. On the 20th September, the fishing was considered nearly over for the season ; the Shad taken that morning were exceedingly small—they would scarcely weigh a pound each, and were called by the fishermen "round fish." The greater part of the Shad taken at this Beach, during the past season, were of small size ; the weirs, by taking these small fish, must do a great deal of mischief to the Shad-fishery generally. It was stated here, that there was no drifting for Shad west of Cape Enragé, the Bay being too wide and stormy, and the water too clear.

The Upper Salmon River, which falls into Salisbury Cove (generally called Enragé Bay) is muddy at the entrance, and the strong tide of the Bay sweeps in and out with great force. There is a large brush weir here, for taking Shad ; those caught in it, during the season of 1850, were of small size—very little larger than Gaspereau. About forty barrels of these small fish were caught in this weir at one time, during August, and there being a flood in the river at the moment, the combined weight

of the water and the fish, carried away the centre of the weir. The fish escaped, and the weir was not repaired; this was fortunate, as the weir is calculated to do much damage by taking small Shad. There is a mill-dam at the head of the tide on this river, which the Salmon can get over. It was stated, that nearly all the Salmon which passed, were speared almost immediately after, in the shallows above the mill-pond. This place was visited on the 20th September, and only a week previous, several Salmon had been speared in the stream; of course, they were out of season, and almost worthless at that late period.

To the westward of Cape Enragé, in Enragé Bay, there are three weirs for Shad on the flats; these are said to be very destructive to small Shad, few large fish being caught in this locality.

FROM CAPE ENRAGE TO THE BOUNDARY OF NOVA SCOTIA.

Above Cape Enragé, the valuable Shad Fishery of the north eastern arm of the Bay of Fundy, may be said fairly to commence. The fishermen here, who chiefly reside in the Parish of Hopewell, near the Shepody River, fish the whole distance from Cape Enragé, to Cape Demoiselle, at the entrance to the Petitcodiac River; above that point, the fishermen of Hillsborough and Memramcook, fish the Petitcodiac up to Stoney Creek, above which not many Shad are caught.

Ezra Bishop, a Shad fisher, residing on the banks of the Shepody River, stated that he usually drifted for Shad in Shepody Bay, between Capes Enragé and Demoiselle. He has six nets to his boat, each twenty five fathoms long; the mesh is five inches—none of the fishers here use a mesh of less size, as they want the large fat shad only. They fish between seed time and hay making; very seldom after that. Bishop usually catches each season, from twenty to thirty barrels of prime Shad; and he supposes, that at least one hundred barrels are taken in Shepody Bay, each day that the boats go out. Very few Herrings are taken above Enragé; but they sometimes catch Grilse, (or "Fidlers" as the fishermen call them,) in the Shad nets. Salmon do not enter Shepody River, the water being exceedingly muddy. There are a few weirs in Shepody Bay, which are not very successful; the Shad caught in them, are much smaller than those caught in the drift nets. Only six Shad boats go out of Shepody River, but others fish

occasionally—nets are let out on shares by Mr. Isaac Turner, to persons who fish at intervals.

Mr. Bishop is of opinion that more boats than now fish between Cape Enragé and Cape Demoiselle, might pursue the Shad Fishery with advantage; but in the Petitcodiac, above Demoiselle, he thinks there are quite boats enough. From Grindstone Island down to Enragé, Sharks frequently do much damage to the nets. They come up the Bay in the latter part of the season, and cause the Shad-fishers to close their fishing much sooner than they otherwise would. This species of Shark, (*carcharias vulpes*—or “the thresher”) is usually taken here, of the length of 6 to 8 feet; if one of them strikes the outer drift net, he is generally taken, as this net swings with him, and he becomes entangled by rolling up the net, with its buoy-rope and lead-line, in such manner as effectually secures him, by preventing the use of his exceedingly powerful tail. If the Shark strikes one of the nets near the boat, which does not yield to his motions, he destroys it almost completely before he escapes. During the past season, Bishop secured three Sharks, of the length of six, seven, and eight feet respectively; he cut out their livers and let the bodies float away—each of the livers yielded six gallons of oil. At times, Dog-fish are abundant in this locality—Bishop said, he had the past season, taken a cart-load out of a single Shad-net, all caught during one tide.

At Shepody, Shad are cured in the following manner:—the fish, after being split, are soaked in two waters, an hour in each. They are then salted in tubs in the boats, as the Shepody boats usually stay out a week; when the boats come in, the fish are fully salted. In this state, they are sold at 30s. for 200 lbs. They are not packed in barrels; the farmers take them away in waggons, as fast as they are ready, and none are put up for exportation, or for sale elsewhere.

On visiting the Petitcodiac, above Cape Demoiselle, it was found, that the Shad boats in general use were about 16 feet in length, on the keel, and 18 feet over all; the breadth of beam, 7½ feet. They are fitted with one mast and two sails—a mainsail and jib. The stem, stern-post, keel, and bottom planks are of birch; the upper streaks of spruce and pine—the boats are generally built by the fishermen themselves, during the winter, and the usual cost of a boat and sails is £10 or £12. The Shad fishing in the Petitcodiac is generally by drifting during the night; each boat has usually 150 fathoms of net, but some fish with 200 fathoms. The nets are from 20

to 30 fathoms in length, 46 meshes deep; the mesh is 4½ inches. All the fishermen complain of the very short time the nets last; if not oiled, tanned, or prepared in some way, they are completely rotten and useless in a month; and even with every preparation yet known here, they will not last a whole season of three months, even with the greatest care.

It was stated by W. H. Steves, Esq., M.P.P., that from Stoney Creek to Cape Demoiselle, the limits of the fishing ground in the Parish of Hillsborough, there are fifty boats belonging to that side of the river, which catch 20 barrels of Shad each, annually. They use from 80 to 200 fathoms of net; besides Shad, they take the small Salmon of the Petitcodiac, in their drift nets, occasionally.

After visiting Bellevous Village, on the eastern side of the Petitcodiac, and examining the boats and nets there, the writer waited upon the Reverend Ferdinand Gauvreau, Parish Priest at Memramcook, who first induced his parishioners to adopt the mode of fishing for Shad with drift-nets, and who has always taken the most lively interest in this fishery. Monsieur Gauvreau stated, that the first Shad which appear each season, are green on the back, with a yellow tinge on the belly; these are good fish. The second run are of a pale green on the back, and as compared with the first, are a poor fish. The third and last run, come very near the end of the season; these have blue backs, and are the best and finest fish.

Since this visit, Monsieur Gauvreau has been good enough to forward a communication in writing, respecting this fishery, which possesses much interest. It is due to Monsieur Gauvreau to state, that he is not accustomed to write in English; but as he has done so on this occasion, his letter is given as written, lest any mistake should occur in rendering his meaning. The letter is as follows:—

Dorchester, 10th December, 1850.

SIR,—I acknowledge the receipt of your circular of 12th August, respecting the Fisheries of the Bay of Fundy; and I must state, that I am quite happy in giving you my share of information, respecting the meshing of Shad in the upper part of the Bay.

I will also have a little to say on Codfish, as I have sent my boat down the Bay, for several years, when I gave up fishing altogether, and turned my attention to model farming—but not until my parishioners had become warmly engaged in the Shad fishing.

I will proceed to answer your queries, in the same order they occupy in your circular :—

1st. The mode of conducting Shad fishing in the upper part of the Bay of Fundy is by drift-nets, tied with a rope, about eight yards long, to the forepart of the fishing boat, or to the stern, to take advantage of the wind and stream of the tide, thereby keeping the meshes of the net sufficiently open for the unsuspecting fish.

Our Shad nets are usually made with the finest Russian twine. Some fishermen make them with cotton warp, No. 6, doubled thread and twisted ; or with the home manufactured flax thread, which answers the purpose very well, when the flax crop is seasonably taken from the field, finely passed through the flax comb, and afterwards evenly spun and twisted.

The meshes, stretched on a measuring rule, are $4\frac{1}{2}$ or $4\frac{1}{4}$ inches long, but are reduced to about $3\frac{1}{2}$ inches when secured to the upper and lower ropes. The floats, or buoys, are made of cedar, and turned smooth with a turning lathe, in order they should offer no obstruction whatever to the good working of the whole net, when it is lowered down into the water, or taken back into the boat. The floats are secured on the upper rope, which passes through them, by a strong thread, that binds them with the upper row of the meshes ; three feet is the common distance between the floats, from centre to centre. The sinking leads are cast, polished quite smooth, and in the same quantity, and distance, as the floats, and tied in the like manner. A net of about 45 meshes wide, would be near 16 feet deep. Made as above described, a net of Russian twine, 100 fathoms long, costs no less than £12 ; of cotton warp, £10 ; and of this country thread, something less than £9. A substantial and safe boat, fully rigged, costs £12 ; and it will stand good from five to six years.

As to any improvement to be introduced in the manufacture of these nets, my opinion is, that none whatever could be devised, for the present. For, such as they are made, all my parishioners agree, they work so well, that if the stream of the tide were strong enough to stretch it properly, a net 100 fathoms long, might be thrown out of a boat, all in a bunch, and it would not get entangled in its sinking leads, nor in its floats.

2nd. The proper and only season for Shad fishing is generally from the month of July to the 15th of September, so that it interferes very little with the farming business of the fishing-farmers.

As you may presume, the Shad is always of great value ; as it is caught only in the summer, and in the greatest stir of navigation, it will for a long time command a good price at home, and in any foreign market.

The average quantity of barrels of Shad caught in the upper part of the Bay, among the French Acadians, is from 1000 to 1500 a year. Last summer, Francois Victor Leblanc, cured 30 barrels for his share.

The Shad-fishing ground extends from about eight miles below the Bend of Petitcodiac, at Stoney Creek, as far down as Grindstone Island, in the Bay, and thence easterly into the Bay of Cumberland—on the Nova Scotia side, the fishing is all with stationary nets, as far as the point of Amherst Marsh, directly opposite to the Minudie Village.

There never was to my knowledge, any standing nets on the New Brunswick side, in the Bay of Cumberland ; and although the Barnes family, on this side, had at first drifted their nets, they soon abandoned that mode and resorted to the stationary nets, but only on the Nova Scotia flats. These nets would not pay on this side Cumberland Bay, for you will be pleased to know, that Shad always go with the strongest stream ; and as the strength of the tide strikes altogether on the Nova Scotia Shore, it is there you will see the whole of these mud-flats entirely covered with stationary nets.

You will be pleased, Sir, to be persuaded of what I have already stated, and what I have to state, upon the Shad fishery, on the Nova Scotia side of the Bay of Cumberland, when you are informed, that for eleven years, I had to discharge my ecclesiastical duty, two and three weeks at a time, among the French Acadians of Minudie, and in the Shad season very often.

This leads me to your third enquiry ; and for want of Her- ring, I will satisfy you with Shad :—

3rd. Standing weirs, and standing nets, are unquestionably, the most effective means of destroying Shad altogether, in our Bays, or at least, of thinning their quantity to an incredible degree. Both ought to be discontinued at once, and prohibited by some strict laws, and defaulters heavily fined.

My reasons for condemning both modes are—first, that by a standing weir, Shad of all sizes are stopped, and those which have hardly attained the half of their natural growth, are either left to perish on the mud-flats, or else are cured *pele-mele* with the large ones ; and when sent abroad, have the effect of bringing the good sized ones down to a miserably low standard. I

have seen with my own eyes what I here mention, when one summer I went down, with five men, in my own boat—my St. Peter,—to the large French weir in *Grande Ause*, or Grand Tasse, as Dr. Gesner improperly calls it, in one of his Geological Reports. I had then an opportunity of making my own observations, as I was three day with a company of French attending the weir, sleeping at night on the hard ground in their rough abode, fishing the Dog-fishes on the flood tide, and more particularly enjoying myself at low water in catching the flirting Shad inside the weir.

Destruction of small sized Shad, by both English and French, went on within this weir, and others, for more than forty years, and at that time there was not a single drifting Shad net in the Bay. Then, contrary to their customary way, the English people of *Grande Ause*, (Big Cove,) one summer about ten years ago, without giving notice to the French people, without whom the English could not make it stand before, they put up again the mammoth weir, and thereby deprived my people of their old fishing foundation.

My parishioners, of course, felt very much such an encroachment, and loss; but to convince them, that they could still have some Shad in their frying-pans, I went to Richibucto and bought a boat of nineteen feet keel, got a net made, and drifted it, and caught two barrels of Shad. As the experiment spoke well, by my example and exertions, I worked so successfully on them, that in the course of three years, there were more than 20 French boats, catching three times over the necessary fish supply for the fishermen.

This year, 100 French fishing boats have been counted drifting down the Bay, all fine and strong boats, sailing well; in fine, fully prepared for any storm.

Before I finish with this enquiry, you must be told that no less than 15 or 20 large weirs have been put up every year, on the Shepody flats, and so on every flat where the French used to put them up, even before the invasion of the Province by the British, and as early as the year 1749, when the forefathers of these French were dispersed for refusing to take the oath of allegiance to the King of England.

Secondly.—As for the standing nets, I positively affirm, they are still worse than the weirs, for the loss of the large sized Shad is greater than that of the small size in the weirs; this wants some explanation. When the tide comes in both Bays, of Fundy and Cumberland, Shad will not be caught at all by weirs, and consequently lay their course till they reach the further end of

the weir, towards the deep channel of the Bay, and thereby are safe on the flood tide; but on the ebb tide, all the Shad which ventured on the flats along the Bay, will be stopped altogether, large and small, as I stated above.

But with the standing nets it is quite the reverse. Shad will be caught at once on the flood, as well as on the ebb tide, the meshes being all the time open for them. And here is the loss, I mean on the flood tide, for then the owners of these nets cannot save the fish, as they have to wait until the tide is all out. As you must allow, Shad, for the most part, are shaken off by the ebb tide, which keeps these nets in a constant and strong motion. They fall down, are dragged away, and are a great loss to commerce. They become a treat for the Sturgeons, and Dog-fishes, these being numerous and strongly attracted to the upper part of the Bay by the lost fish, as the Shad itself is attracted by the worms, which venture out of the muddy flats, heated by the July and August sun.

I reiterate my suggestion, that both weirs and standing nets ought to be prohibited by law, as being destructive to Shad, and very ruinous to our fisheries and commerce.

4th. The mode of curing Shad is this—after they are opened by the back, and their entrails taken off, they are thrown into a large open tub of fresh water, and are soaked therein, until all the blood about the back-bone is got out of it. Then they are taken out and put separately on the edge of a board, or horizontal fence poles, each side of the fish hanging down, on either side of the board or fence pole. When they are sufficiently freed from the water in which they have been steeped, they are then salted, and put in the shade, in some fish-house, which almost every fisherman has built for that purpose.

I am perfectly satisfied, that Shad chiefly feed on the worms of our muddy flats, since they are found in the stomachs of the fish, and hardly any shrimp at all, as I am informed by the fishermen of my Parish. Besides, the Shad is naturally fond of vermiculated food, and must be fonder of worms than of any other kind which have affinity with them. Moreover, to what sort of food would you ascribe that oily taste which we find in Shad, as also that thick yellow oily matter, which we find on the top of every barrel of Shad, if not to the quality of their food, which I contend to be worms, and chiefly worms. Since then, they chiefly feed upon worms, and worms are very abundant on the muddy flats of the upper part of this Bay, I repeat again, that standing nets, and weirs, are destructive to our Shad fishery, as they are an insurmountable obstacle

to the growth of fish, that venture on the flats, in search of food. Such obstacle does not exist with drift-nets, as they must keep to the channel of the Bay, on account of their depth.

I conclude with the necessity of your recommending to Government, the appointment of an intelligent impartial Inspector of our Fisheries, having full power to regulate the size of meshes, the length and depth of nets, the quality and quantity of salt in every barrel of cured fish, &c. &c. &c.

J'ai l'honneur, Monsieur, &c.

FERDINAND GAUVREAU,
Priest Missionary.

M. H. Perley, Esquire.

In addition to the above interesting communication, the following letter has been received from R. B. Chapman, Esq., M.P.P., who resides near the Bellevous Village, on the eastern bank of the Petitcodiac :—

Dorchester, October 10, 1850.

SIR,—I have received a copy of your circular respecting the fisheries, and regret that I had not the pleasure of an interview when you visited my house. You are aware, that Shad are the only fish taken to any extent in the Petitcodiac River. The number of boats employed, the present season, on the eastern side of the river, is about 75, with probably, an average of 100 fathoms of net to each boat—also, one strong active man, and sometimes a boy, to manage the same. The expense of the boat and net will not be less than £20; the boat, of course, will last for years, and the rope will last 4 or 5 years; but it will require three nets to last two seasons. The average number of barrels to each boat, this season, will not exceed fifteen; price, 27s. 6d. per barrel.

If any plan could be devised to preserve the nets, and make them last longer, a great benefit would be conferred on the fishermen, as some of them are about to abandon the fishery, in consequence of the heavy expense of nets.

There are, certainly, defects in the mode of curing. Sometimes the fish remain too long, after they are taken out of the water, before they are cleaned; and sometimes, they are soaked too long in fresh water before being salted. It is quite certain, that the sooner Shad are salted after being caught, the better they are; and they ought never to be repacked. You are aware, that the Shad taken at the head of the Bay are, perhaps, the best in the world; yet there is a time, in the latter

part of July, and beginning of August, when they are quite inferior, both in size and quality, to those taken at any other time during the season.

You will doubtless have had an opportunity, during your tour through this part of the Province, of conversing with persons who have long been engaged in the Shad fishery, from whom you have received more information than I am capable of communicating. Your enquiry, my dear Sir, is an important one; our waters abound with fish of all kinds, and yet we are strangely apathetic in prosecuting so important a source of wealth. That your enquiry and Report may have the desired effect, is the sincere wish of

Your obedient servant,

R. B. CHAPMAN.

M. H. Perley, Esquire.

Between the mouth of the Memramcook River and Cape Maranguin, the Shad fishery is carried on by weirs, and stake-nets. The settlers do not drift for Shad; it takes too much time from farming, and they have no shelter for boats. Last year there were only three weirs; but nearly every settler had a string of stake-nets. From Red Head, below Dorchester, to Grande Anse ledge, there were 15 strings of nets; and at least 25 strings more from that ledge down to Cape Maranguin. The strings averaged about 100 fathoms each in length; the mesh, 4½ inches; and the net, 30 meshes deep. The stakes are placed 15 feet apart, on the mud-flats, and the nets are entirely dry at low water. Some fish mesh on the flood, but the greatest numbers are taken on the ebb tide. The fair average catch of each string of nets, in Grande Anse, was stated to be 20 barrels during the season.

Mr. George Buck, an intelligent fisherman, who resides 4 miles below the Village of Dorchester, has fished there for Shad during the last 30 years. He stated, that Shad strike in at this place, from the 1st to the 15th June; they are then large, and pretty fair fish; the next run comes in the heat of summer, these are not so good. As the autumn advances, the fish grow better and fatter; those caught latest being the best. The Shad come to these flats to feed, not to spawn; and Mr. Buck is of opinion, that the Shad which ascend the Saint John in the spring, after spawning, go up the Bay to fatten. Whenever there is a large run of Shad up the Saint John in the spring, there is always good fishing at Petiteodiac in the autumn. It is unusual to find any run in Shad, caught at this

quite other
your
a per-
from
pable
mpor-
yet we
rce of
esired

locality ; it sometimes occurs, but that is very seldom ; he has often found slug-worms in the stomach of the Shad, some of them nearly as large as a man's finger—these are now called "Shad-worms." Mr. Buck usually catches 30 barrels of Shad each season, in his string of nets ; he exceeded that quantity last season, as on the 26th September his nets were still down. His nets are tarred, and they last nearly a whole season ; he thinks it is the mud which does the mischief, and causes them to rot so quickly. Cotton thread takes the tar well, and therefore stands longest ; herring-twine fishes well, but only lasts a few weeks.

AN.

The mode of curing here, Mr. Buck described as follows :—he cleans the fish as quickly as possible ; washes twice—drains quickly—and salts down, once for all. He uses generally about 1½ bushels of salt to each barrel of Shad ; the past season he used 50 bushels of salt to 30 barrels of Shad, and these fish will keep any length of time, anywhere. The necessity of a strict inspection was strongly urged by Mr. Buck, who expressed his anxious desire to employ, at that moment, an Inspector and cooper to pack his fish for exportation.

Cape
stake-
much
Last
er had
ester,
and at
Maran-
length ;
The
e nets
flood,
he fair
e, was
sides 4
re for
strike
e then
eat of
es, the
e best.
nd Mr.
t John
When-
in the
in the
at this

From Cape Maranguin to the head of Sackville Bay, on the New Brunswick side, the Shad fishing is followed both by drift-nets and stake-nets. Each boat has usually 100 fathoms of drift-net ; the mesh 4½ to 5 inches, and the nets 60 meshes deep—the average catch during the last five years, has been about 20 barrels to each boat, during the season.

Mr. John Barnes of Sackville, who understands the Shad-fishing of Sackville Bay exceedingly well, stated that he fishes both with drift and stake-nets ; the latter are 30 to 40 meshes deep, and set on stakes, 15 feet apart, between high and low-water mark. He takes Shad in his stake-nets on the ebb-tide ; the nets are therefore on the lower side of the stake, fastened at top and bottom. If the tide runs strong the nets must be allowed to bag a little ; but if it is not strong, they are better stretched tight. One set of stake-nets will not last during the season, as they rot out very soon—a new net of herring twine has been known to rot out in eleven days. No net will last more than a month, unless oiled with new linseed oil, or tanned ; tanning the net to be effective, must be repeated every week.

Mr. Barnes concurred in the opinion, that there are three distinct runs of Shad, the first, and last, being by far the best fish. It is very rare, he said, to find any roe in a Shad, and when it was found, the fish was poor and thin, like the Spring Shad caught at Saint John.

The usual mode of curing Shad at Sackville, was thus described :—The fish are cleaned as soon as possible after being taken from the net ; they are split, scraped, and washed, after which they are soaked a short time. A second scraping and soaking next takes place, when the fish are hung up to drain for half an hour, and then salted down once for all. Mr. Barnes does not approve of too much soaking ; he thinks the fish should be washed sufficiently to take the blood out, as it is the blood does the mischief. A bushel of salt is not enough for a barrel of Shad, unless they are for immediate use ; a larger quantity is necessary if the fish are intended for shipment, or to be kept for any length of time. The necessity of a rigid inspection was much insisted upon by Mr. Barnes, especially as regarded Shad intended for exportation.

Sharks appear in Sackville Bay, at the end of August ; one was taken there in September last, nine feet in length, by Mr. Boultenhouse. The greatest obstacle to Shad fishing in Sackville Bay, arises from the south-west gales, which rush through this narrow part of the Bay of Fundy, as through a funnel, and occasionally blow with much violence ; when these meet the ebb tide, they cause a very heavy sea, which puts fishing wholly out of the question.

Estimate of the quantity of Shad taken on the New Brunswick side of the Bay of Fundy, from Cape Enrage to the Nova Scotia Boundary, made up from local information, October, 1850.

LOCALITY.	Boats, weirs, &c.	Quantity caught.	Total number of barrels.
Shepody Bay,	8 boats,	25 brls. each.	200
Ditto,	stakenets and weirs,		200
Cape Demoiselle to Stony Creek,	30 boats,	20 brls. each,	1000
Memramcook, (Acadian French)	100 boats,	15 brls. each,	1500
Dorchester to Cape Maranguin,	40 nets,	20 brls. each,	800
Cape Maranguin to Nova Scotia Boundary, ..	15 boats,	20 brls. each,	300
Ditto,	stake nets,		100
Total, barrels,			4,100

The value of pickled Shad in October last, as stated by Mr. Chapman, was 27s. 6d. per barrel ; at this rate, the value of the Shad caught and cured in the upper part of the Bay of Fundy last season, was £5,637 10s.—This amount, large as it may appear for what has been considered one of the minor fisheries of the Bay, is believed to be even below the actual value. The quantity of fish, stated as having been caught, does not include the small Shad caught below Cape Enrage, nor yet those fish caught in a desultory manner within the district indicated, and consumed immediately by the inhabitants.

This fishery may be said to have commenced ten years since, when drifting for Sea Shad, at Petiscodiac, was introduced by the Rev. Mr. Gauvreau, under the circumstances mentioned in his letter. It may be rendered yet more valuable than at present, by an improved system of cure, and careful inspection; while the quantity of fish caught may be greatly increased, by proper regulations and judicious management.

THE SALMON FISHERY OF THE PETISCODIAC RIVER.

Although the lower part of this river, so far as the tide-way extends, is excessively muddy, yet above the tide, its waters are bright, and ripple gently over a gravelly bed, forming an almost constant succession of pools and rapids. Great numbers of Salmon, generally of small size, formerly frequented this river; but latterly, owing to the unmerciful and cruel manner in which this fish has been hunted and persecuted, as well in the tide-way as above it, they have greatly diminished and are at present in a fair way of being extirpated altogether.

In August 1848, the writer was on the upper part of this river, near the head of the tide, and at night, saw thirty-five haymakers making war upon a few Salmon which had reached a pool the day previous. They built large fires upon the banks, and entering the pool, some wading, and others in canoes with torches, each man armed with a pitchfork, they pursued and mangled the fish, until the whole were killed. At a pool farther up the river, the next day, the writer saw a boy in a canoe, with a pitchfork, pursuing a solitary Salmon in a shallow pool, from which it could not escape; the fish was killed at last, but so mutilated as to be almost worthless. Every where on the river, the same destruction appeared to be going on; it was said by the inhabitants that no regard was paid to season, but that Salmon were always taken, whenever, and however they could be had.

Unless it be intended, that the Salmon fishery of the Petiscodiac shall be allowed to cease altogether, as a thing of no value, it is absolutely necessary, that steps should be taken to restrain this wanton destruction of fine fish. If the river is not put under some superintendence, to restrain the destructive inclinations of the sojourners on its banks, it cannot be expected, but that the Salmon fishery of the Petiscodiac will shortly be remembered as a fishery that has been, but which no longer exists.

THE NOVA SCOTIA SHORE.

CUMBERLAND BAY.

In this Bay, the Shad fishery is also prosecuted to a very considerable extent, and of such value is it considered, that a special Act of the Legislature of Nova Scotia was passed in 1840, for its regulation. It is set forth in the preamble to this Act, that the Shad fishery in the County of Cumberland is becoming of importance, and difficulties and disputes have arisen, and are likely to arise, respecting the setting of nets, and the use of drift-nets; to prevent which, it is enacted, that it shall be lawful for the Justices in Sessions, to make rules and regulations for the setting of nets, the placing of weirs, the number of nets to be allowed to one person, the distance they shall be set apart, and whether drift-nets shall or shall not be allowed. The Act also provides for the appointment of Overseers of the Shad Fishery, each Overseer to be assigned a particular district; and for every net or weir, set or placed within that district, the Overseer is authorized to receive, from the owner of the same, the sum of five shillings, as compensation for his services in enforcing the fishery regulations.

Under this Act, the Justices have established certain rules and regulations, a copy of which will be found in the Appendix to this Report.

After crossing the Missaguash River, (the boundary between New Brunswick and Nova Scotia,) the writer proceeded to Amherst, passing the La Planche River, and subsequently visiting the Napan and Macan Rivers. At Amherst, much information as to the Shad fishery was communicated by Joshua Chandler, Esquire, High Sheriff of Cumberland, R. B. Dickey, Esquire, and Mr. Gordon, Controller of Customs; at the rivers, the writer met Mr. Corbett and Peter Niles, both experienced fishermen, and Mr. Coates, an Overseer of the fishery. From these several parties the following information was obtained.

There are no weirs on the Nova Scotia side of Cumberland Bay, nor are any drift-nets used on that side; the people are opposed to drifting. The only mode of fishing for Shad is by stake-nets, on the mud-flats. Each net is 12 fathoms long, from 28 to 40 meshes deep, according to situation; the mesh is from 4½ to 5 inches. Shad have been taken here as early as

the 8th of June ; but the fishery usually commences on the 1st of July, and continues until the 1st of October, although fish have been taken at the end of October, when ice was making. From the Missaguash to the La Planche River, there are 12 nets, which, on the average, take 5 barrels each, during the season. From the La Planche to Barron's Point, (so named from Sir Edward Barron, the Grantee of that part of Amherst,) there are 60 nets, the average catch of which is now 10 barrels annually. It was stated by all the fishermen, that the fishing was falling off very much of late, and the average catch the last two seasons was only half of what it was seven years previously. This they attributed to the great increase of drift-nets used in the Bay, by the inhabitants of New Brunswick ; when the wind is so high that the boats cannot go out to drift, then they always get twice as many as when the drifting is taking place.

The nets are so arranged, on the lower side of the stakes, as to form a bag on the ebb tide, when most of the fish are caught ; but many fish strike the net on the flood, and being shaken out by the strong motion on the ebb, (as described by the Rev. Mr. Gauvreau,) they are scattered over the flats, and much "mud larking" takes place before they are all gathered, which sometimes does not happen, and the fish are wholly lost.

There is no inspection of fish in the County of Cumberland, and they are sold entirely on the character of the curer. The mode of curing was described as being the same as that in use at Sackville, but they are soaked longer ; a bushel of salt is the quantity generally considered sufficient for a barrel of Shad. In the writer's opinion, the fish are injured here by too much soaking before being salted ; and the quantity of salt used in curing, is not sufficient to preserve the fish for any length of time. Liverpool salt is generally used, which is much inferior to that from St. Ube's, or Turk's Island, for curing fish.

It was agreed by all the fishermen here, that there were three distinct runs of fish during the season, as at Petitcodiac, the first and last being the best. It is very rare to find a Shad with roe ; the Shad-worm and Shrimps are frequently found in the stomachs of the Shad, which left no doubt as to the nature of their food.

At Minudie, on the River Hebert, there is a valuable Shad fishery ; and it is asserted, that the fish caught there are fatter and finer than any others in the Bay of Fundy. The fishing at this place, and in Cumberland Bay generally, is described in the following letter from Amos Seaman, Esquire :—

Minudie, 11th September, 1850.

SIR,—In answer to your circular of 12th August, relative to the fisheries at the head of the Bay of Fundy, I beg leave to say, that I will furnish such information as is in my power, relative to the Shad fishery, which is the only kind successfully followed, in the Bay and Rivers around here.

It is only about 15 years since any attention was paid to this business. At first, standing weirs were employed; but, owing to the circumstance of large quantities of inferior and small fish being caught, the raising of the flats, and other undefinable causes, this mode has for some years been discontinued. The only methods now practised are by set-nets and drifting; by the latter, far the largest quantities are taken; sometimes may be seen in Dorchester Bay, and around the shores of Minudie, upwards of two hundred boats out at one time. The boats leave the place of rendezvous with the ebb-tide, drift down the Bay until they meet the flood, and return with it to the place from whence they started. With favourable tides each boat will secure from 100 to 150 Shad, with 80 to 100 fathoms of net. The fishing season commences in June, and terminates in September.

When we consider the great number of nets that are set, almost every resident on the shores having one, and some four or more—besides others who come from miles inland to embark in the business—as well as the great number of boats constantly out drifting, it is not perhaps too much to say, that from five to six thousand barrels are caught and cured every season. When properly put up, in barrels of 200lbs. weight, with care in curing and packing—the fish being split down the belly, the back bone taken out, and the tail cut off which is the method preferred by the American Merchant, and now followed by many of our fishermen—these Shad will command from nine, to eleven dollars, per barrel, in the American market; leaving from six dollars and a half, to nine dollars and a half to the exporter, after duties and charges are deducted.

It is but a very few years since any Shad were prepared for shipment, the people who followed this fishery being content with securing sufficient for their own wants, and perhaps a barrel or two for their neighbours. But the fame of our Shad went abroad, and some American Merchants were induced to try them in their market; they were highly prized and sought after. From that time, exportations were yearly made, and have gone on steadily increasing. At the present time, there is a great demand for Shad caught at the head of this Bay,

as being of superior quality—much fatter, and of more delicious flavour, than any found on the American shores, or in the markets of the United States.

This demand, and encouragement, have had a wonderful effect in stimulating our fishermen to increased exertions, and greater care in curing, so that the fish may command the highest price, and sustain their character. That the supply is inexhaustible, is plain to every one; for, notwithstanding the number of persons employed, and the means for capture have greatly increased within the last few years, there appears not the least diminution, in the quantity of fish—none complain. If the contemplated Railroad were once in operation, and the Canadian market, now shut to us by circuitous navigation, should be rendered easily accessible, a large field would be opened for our fisheries. The energies and enterprize of our fishermen would receive additional excitement, and the whole trade would flow in that direction, to avoid the heavy duty of one dollar per barrel exacted by the American Government. We consider our Shad fishery to be only in its infancy; and not a doubt can be entertained, that when a larger field is opened, and improvements introduced in the modes of capture and cure, that the trade will become extensive, of great importance, and highly lucrative.

You will perceive, that all my observations have been confined to the Shad-fishery, in and around Minudie, and the neighbouring Bay of Dorchester, at the mouth of the Petitcodiac. The same fishery is carried on along the Coast to Chignecto, and about the shores at Parrshoro', and no doubt equal quantities are caught there; but for more full information, I must refer you to persons in those localities.

I have nothing to say as to other fisheries here, they being too insignificant to demand even a passing notice. With my desire, that the foregoing may be found useful and satisfactory,

I have the honor, &c.

AMOS SEAMAN.

M. H. Perley, Esq.

From Minudie down the coast toward Apple River, the Shad fishery extends as far as Mill Creek, below which, the waters of the Bay become perfectly clear, and Shad are not taken. In this distance are the extensive grindstone quarries of Mr. Seaman, at the South Joggins; two miles south-west from these quarries, are the Joggins coal-mines, now being worked by the General Mining Association of Nova Scotia. The coal



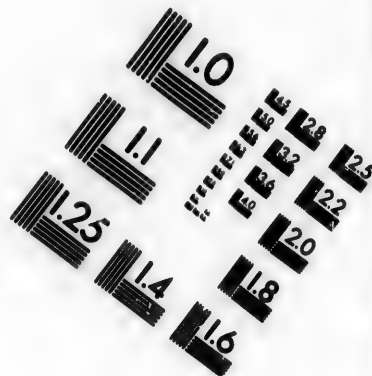
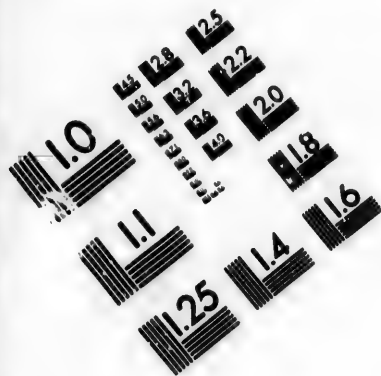
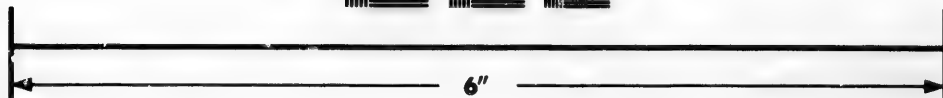
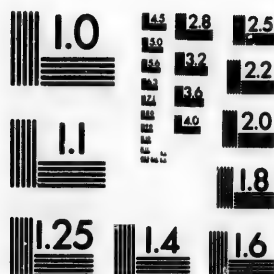


IMAGE EVALUATION TEST TARGET (MT-3)



Photographic Sciences Corporation

**23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4505**

is bituminous ; the seam is four feet in thickness, with a dip of one foot in three ; underneath this seam of coal, there is a bed of fire clay from two to three feet thick, and below that, another seam of coal, 18 inches thick, of very superior quality, but which at present, is not worked. About two miles further down the coast, is the Ragged Reef, where very large grindstones are quarried, many of them six feet in diameter, and eight inches thick. Along this line of coast, the shores are quite perpendicular, and composed altogether of the various sand stones of the coal measures, a fine section of which can be seen in sailing along the shore. At the South Joggins, there are numerous fossil trees in the cliffs, which are well described by Sir Charles Lyell, (who visited this locality a few years since) in the account of his first visit to North America. To the Geologist, this place will be found highly interesting.

Not many fish are caught along this shore, the inhabitants being all engaged in mining coals, or quarrying grindstones. A few Shad are taken at the Ragged Reef, where also, there is Cod fishing early in summer, and again late in the season. Some Haddock and Pollack are likewise taken, and also a few Hake ; but Dog fish are complained of as being very abundant.

At day light on the 27th September, while standing in for this shore, the Cutter fell in with a Shad boat from Westcock, (Sackville) which had been out all night drifting for Shad. There were fifty very large and fat Shad in the boat, caught during the night ; the fisherman stated, that two nights previously, the weather and the tides being favourable, he had caught 260 Shad during a single night's fishing, 70 of which filled a barrel ; his whole catch during the season was no less than 5000 fish, equal to 45 barrels. This boat had 175 fathoms net, 55 meshes deep, the mesh $4\frac{1}{2}$ inches ; the material, linen hank-thread, oiled with raw linseed oil, and the whole outfit was altogether superior. The owner said, that some schooners from Saint John, which had been up the Bay Shad fishing, had failed, in consequence of having made their nets so very black with tar, that the fish saw them and would not mesh.

Off Apple River, some good Cod are caught in June, and Herrings are taken in July, with a mesh of $2\frac{1}{2}$ inches, very fine and fat ; Halibut of exceedingly large size are taken not far from the Light House during the summer, but no Shad are caught at this place, and Hake very rarely. Large quantities of Smelts, and many small Salmon occasionally enter the basin, but there are no preparations for taking either. In

consequence of a very violent storm, the Cutter was obliged to remain two days in the inner harbour at Apple River, and during that time, great numbers of Herring Gulls were observed to be busily engaged in taking fish, which appeared to be in large schulls.

At the large rocks called the Sisters, about 3 miles below Apple River, there is very good fishing for Cod during the summer; some boats come over from the New Brunswick shore every season to fish there. A schooner of 50 tons from Shepody, make a fare of Cod on this ground in six weeks during last season; the residents complained bitterly of the damage done to the fishing ground, by the offal of the fish having been thrown overboard from this schooner upon it—a practice which is exceedingly destructive to the fisheries, wherever it occurs.

From the Sisters to Cape Chignecto, there is not much fishing, the Coast being lofty, without shelter, and greatly exposed to southerly or westerly gales. Between Isle Au Haut and Cape Chignecto, there is a bank extending almost entirely across that channel, upon which there is good fishing the greater part of every summer. The residents of Advocate Harbour formerly fished to some extent upon this bank; but the want of boat-shelter at Isle Au Haut, has induced them to discontinue it almost entirely.

The writer landed above Cape D'Or, at Fisherman's Cove, near Spencer's Island. At this place, there is fishing for Cod, Pollack, and Haddock, commencing about the 10th of May every year; the best fishing is in June and July, and it altogether ceases in August. There are 25 fishing boats at this place, each boat 16 feet keel; the fishing is near the shore, and every family fishes, more or less. Early in the season, they catch a large Herring, in a mesh of 24 inches; as the season advances they take a Herring that is smaller, but fatter, distinguished as "green backs." These are caught in a mesh of 2 inches. At the end of July, or early in August, a small *Herring* makes its appearance, described by the fishermen as being 4 or 5 inches in length, thickest at one-fourth of their length from the head, and tapering off to the tail like a Smelt. What these fish are, it is impossible to say from the description given by the fishermen. Flounder fishing begins here about the 1st of June; but these fish are not in condition until August, after which they become fat and good.

From Spencer's Island to Cape Sharp, a distance of 20 miles, there is a wide sweep of coast, known on the Charts as Greenville Bay; there is good fishing inshore, nearly the whole extent

of this Bay, especially near Ratchford's River, Diligence River, Fox River, and Black Rock River. Inside Fox Point, and at the race off Cape Sharp, there is good Pollack fishing ; these fish appeared in great numbers, at these localities, during the past season ; yet few were taken, owing to the inhabitants not being prepared.

At Black Rock River there are several brush weirs for taking Herrings ; these first appear at the latter end of April, but the greatest abundance is at the end of May. The first Herrings which arrive are spawning fish ; they deposit such quantities of spawn, that it can be shovelled up upon the beach. At the latter end of June, and during July, a smaller description of Herrings come in, which are very fat ; of these, large quantities have been seen, playing in the tide at a distance from the shore, but they do not approach sufficiently near to enter the weirs, and the inhabitants have no nets. These small, fat Herrings are followed by Pollack in great numbers ; and the Pollack fishing is excellent in the vicinity of Cape Sharp, for about six weeks, ceasing at the end of August, with the departure of the Herrings.

In West Bay, there is good Cod fishing until the middle of June ; and the fishermen mentioned the taking of Halibut, of such extraordinary size as to be almost incredible. Great quantities of Flounders—or Flukes—*platessa limanda*—are taken along the coast in the autumn, which are first salted, and then dried and smoked.

It was stated at Black Rock Beach, that although large quantities of Herrings had been taken in the weirs there during the season, yet the weir owners had no salt to cure them, and allowed all persons that pleased to take them away ; and when this place was visited, on the 1st of October, it was stated by Richard Lank, a resident fisherman, that they had not a single Herring in their houses for winter use. Fishing vessels from Saint John and Grand Manan formerly visited this place, bringing abundance of herring nets ; but the inhabitants thought these nets injured the fishery, and by opposition and annoyance, succeeded in driving the fishermen away.

THE BASIN OF MINES.

At Parrsborough, it was stated by James Ratchford, Esq., that there are three runs of Herring during the season ; the first arrive about the 1st of June, heavy with roe, and the beaches are shortly after covered with spawn. The second

run are smaller, but better fish ; while the third run are still smaller, but very fat, by far the best fish of the season. The Cod follow the Herrings, and continue as long as they remain. Of late years, Cod have greatly decreased in numbers, while Haddock have been more abundant. Abreast the Village of Parrsborough, long-lines have been set for Cod with much success, by an amateur fisherman, who lifted them three times a day during the season, and usually found them loaded with fish. There are no regular fishermen at this place, although during a certain portion of the spring and summer, herring fishing and line fishing might be prosecuted to some extent, and with considerable profit.

The coast from Parrsborough to Economy Point was visited, and the information obtained from David M'Burney, Esquire, of East River (Five Islands,) Silas P. Crane, Esquire, of Economy, and other persons on the coast, may be thus stated :

On the northern shore of the Basin of Mines, the Shad fishery begins at Herrington's River, to the eastward of Parrsborough River, and extends along the coast to Port-a-Pique, a distance of 21 miles. The fishing is carried on both by weirs and drifting ; in the whole distance there are about 20 brush weirs. Between Graham's Head and Economy Point, the flats for about four miles, were observed to have an almost unbroken continuance of these weirs, crescent shaped, the ends of the weirs touching each other.

Mr. Crane estimated the whole quantity of Shad taken in this district, during the season, by drift-nets and weirs, at 1000 barrels. Drift-nets first came into use here about five years ago, since which the weirs have taken the small Shad only. The fish taken here are of very good quality ; but Mr. Crane said, he thought the Minudie Shad a shade fatter and better.

The mode of curing Shad here is as follows :—The fish are split down the back, cleaned, and washed in salt-water ; they are then struck in salt, in hogsheads ; at the end of a fortnight, they are considered sufficiently struck, and are then packed in barrels for market. There is no inspection of fish, the chief Inspector at Halifax, not having appointed any Deputies in this district. The practice of soaking and draining Shad, is here deprecated, as tending to impoverish the fish, which it is contended can be sufficiently freed from blood and impurities, by cleanliness and care in splitting and dressing.

At Economy Point, Mr. Halliday has a fishing establishment for catching and curing Shad, in connection with Messrs. Snow and Rich, the eminent fish merchants of Boston. As

the Shad cured at this establishment are for the Boston market exclusively, they are split down the belly, the back bone taken out, and the head and tail cut off; they are then called "Mess Shad," and are worth, at Economy, 32s. 6d. per 200lbs. It was stated, that Mr. Halliday used nets with a mesh of 5½ inches, the desire being to take the largest and finest Shad only; his nets are 200 fathoms long, and drying frames are used to stretch them upon, after being in use.

Herrings also strike in on this Coast, as at Cape Sharp and Parrsborough, but not in such quantities. Some Cod are taken from early spring until 1st of June, and again in November and December, by lines attached to poles driven in the flats. Pollack do not go up the Basin beyond Five Islands, the waters being too muddy; Basse were formerly abundant, but none are seen now, they having been destroyed by the weirs, and by nets set across the rivers. Many Salmon are taken in Economy River, but they are of very small size, rarely exceeding the weight of 4lbs.; all the Rivers in this locality are frequented by these small Salmon, in greater or less numbers. At Five Islands, and some other places along this Coast, it was stated, that the inhabitants were rarely provided with a sufficiency of salt, when the Herrings first came in the spring; and that numbers were lost and spoiled in consequence.

At Windsor, the writer obtained from Mr. James Burgess, a practical fisherman of much skill and intelligence, some very valuable information; from this, and his own observations on the southern side of the Basin of Mines, as well as from conversations with many fishermen there, the following account of the fisheries in that locality are compiled.

The taking of Shad by drift-nets was begun in Windsor River, about 12 years ago. The fishing begins in each season, about the 25th June, and continues until about the 10th of August, after which it begins to fail, and is not followed later, the number of fish caught being too few to be profitable. The fishermen drift from Avon Bridge down to Cape Blomidon, dropping down with the ebb, and returning with the flood; they drift both by night and by day, the water being excessively muddy, but as Blomidon is approached, the fishing is only by night, as the water there is clearer. At Windsor, the "Shad-worm" is found upon the mud flats, but the Shad are supposed to feed chiefly on Shrimps, which are in great abundance and of fine quality; they are often found hanging upon the Shad-nets, of large size, nearly as large as prawns. The Shrimps leave the River in August, and the Shad depart

at the same time ; it is thence inferred that the Shad follow the Shrimps to some other locality.

On the flats below Boot Island, in Windsor River, and thence down to Flat Island, there are standing nets, in which Shad are taken later in the season than by drifting. The quantity taken between the Town of Windsor and Horton Bluff is estimated at 1000 barrels annually, which, last season, were worth there, on the average, 32s. 6d. per barrel, as they are all good fish, and care is taken in curing them. The Windsor Shad are split down the back, well washed, and salted as at Sackville ; thus dressed and cured, 110 fish fill a barrel. Last season they sold at Boston for \$9 per barrel, less by \$1 per barrel than if they had been dressed for the American market, as "mess Shad," in the manner they are put up by Mr. Halliday, at Economy, for the Boston dealers.

The Shad fishing is carried on to the eastward of Windsor, partly by drifting, but chiefly by stake-nets, on the wide spread flats in front of Cheverie ; thence the fishing is continued to the Shubenacadie River, up which the Spring Shad ascend, to the Shubenacadie Lakes, for the purpose of spawning. During the past season, a stake-net was put up at Noel, between two and three miles in length, in which several thousand Shad were taken during a single tide ; this enormous net is owned in shares by a Company, and such quantities were taken in it, during the height of the fishing season, that the owners were obliged to work without ceasing, and even on the Sabbath, to preserve the vast numbers of fish it secured.

The drift-nets in use at Windsor are 100 fathoms in length, 36 to 45 meshes deep ; the mesh is from 4½ to 5 inches—it is being diminished yearly, in order to secure a greater number of fish. The expence arising from the rotting of the nets, after being a very short time in use, was matter of complaint at Windsor, as elsewhere ; but it was found, that Mr. Burgess, during the past season, had, as matter of experiment, used a composition of his own devising and manufacture, which had effectually preserved his nets from rotting. This composition consisted of India rubber, dissolved in the ordinary burning fluid for lamps, until it became of the thickness of rich cream. To this solution, boiled linseed oil was added, in the proportion of a pint of oil to a gallon of the solution ; the nets, made of 3 thread herring-twine, were simply passed through the solution, without being steeped in it, and were fully stretched out to dry. They dried in three days, and were then of a light reddish colour, very nearly that of the muddy waters in which

they were to be used. The nets thus prepared by Mr. Burgess were fished by him during the whole season of 1850; in October they were examined by the writer, who, with the permission of Mr. Burgess, tested them thoroughly in every part. They were found perfectly sound and strong, fully sufficient for fishing another year.

This mixture having been mentioned by the writer to Dr. Charles T. Jackson, the celebrated chemist of Boston, its preservative qualities were at once admitted by him; but he said, that something much better, and less expensive, might probably be found by a few scientific experiments. The preservation of Shad nets from sudden decay, is matter of very great importance to the fishery, not only as regulating its extent, but also the profits to be derived from it. No greater boon could be conferred upon the Shad fishers of Cumberland Bay, than the invention of a cheap composition, that would prevent their nets from rotting, and permit their use until fairly worn out.

The practice of drying nets upon the grass was reprobated by Mr. Burgess, as highly injurious under any circumstances, in his opinion, all nets will last longer if stretched on proper drying frames, after being in use.

Salmon ascend the Avon, and its tributaries, in considerable numbers; many of the smaller size are taken in the Shad nets, but the larger fish break directly through, the thread not being sufficient to retain them. The Spring Shad do not go up the Avon to spawn, nor has any roe been found in the Shad caught there.

Great numbers of Gaspereau every spring ascend the Shubenacadie, the Avon, the Horton, and Cornwallis Rivers to spawn. Those taken in the Avon, are large but poor; in the other rivers, they are much smaller, but thicker and fatter. In the weirs, on the flats below Windsor, small fish, called "Shiners," are frequently taken; these are a little fish, shaped like a Gaspereau, very silvery on the belly, and very fat—they are only used as a pan-fish, and are excellent when eaten fresh.

At Pereau, just below Habitant River, a description of very small, but very fat fish, not unlike Herrings, are taken in August. The oil from them stains the hands, and they are so unctuous, that they are very difficult to cure. They are often sold fresh from the weirs, at ten pence per bushel; but cartloads are frequently used to manure the land. The fishermen are decidedly of opinion, that they are not young Herrings, but a distinct fish; when taken they are full of roe, and ready for spawning. The writer had not an opportunity of seeing any

of these fish, and is therefore unable to class them. It is quite possible they may prove to be Sardines, some specimens of which have been occasionally caught in the Bay of Fundy.

Cod are frequently taken at the mouth of the Avon, by single lines attached to stakes. Hake are said to be abundant in that part of the Basin of Mines, between the mouth of Cornwallis River, and Cape Blomidon; they appear about the 1st of August, and may be taken during the rest of the season, in 7 fathoms water.

Smelts ascend all the rivers in this locality, at the close of winter, in almost miraculous abundance. Basse were very plenty formerly, but are seldom seen now, having been thinned off by the weirs, and other contrivances. Tons of Eels may be taken at any time during the season; one fisherman said, he had seen a stream of Eels, each as thick as his arm, pass through a gap in a weir, during half an hour.

Very large Sturgeon are also taken here; but Sharks are only found on the northern side of the Basin, where the water is less muddy; they are there taken of large size. Mr. Burgess had the tail of one, caught there, of "the thrasher" species, which measured 3 feet across; this fish was probably 8 feet in length.

It was complained by the fishermen, that spring-nets were used at the Cornwallis River, and Habitant River, which, they said, destroyed great quantities of fish of all kinds; this is a matter for enquiry by the authorities of Nova Scotia.

THE SOUTH SHORE OF THE BAY OF FUNDY.

To the southward of Cape Split, is Scotch Bay, a wide, open roadstead, with extensive mud-flats at its upper extreme. Considerable quantities of Shad are taken on these flats, chiefly in weirs; but a large seine is also used, of which complaint was made, as being injurious to the fisheries, by taking numbers of small fish of every description. Here the Shad fishery ceases on the Southern Shore of the Bay of Fundy, and the geological character of the Coast changes. The bold and rugged cliffs of the South Shore consist chiefly of *trap rocks*.

From Black Rock down to Brier Island, along the whole South Shore, there are three fishing banks, or ledges, lying parallel to the shore, outside each other; their respective distances from the coast, have acquired for them the designations of the three mile ledge—the five mile ledge—and the nine mile ledge. On these ledges, there are 60 fathoms of water, but on

the crown of each ledge, 30 fathoms only. The 3 mile ledge and the 5 mile ledge, extend quite down to Brier Island ; but the 9 mile ledge can only be traced down the Bay, about 14 miles below Digby Gut, abreast of Trout Cove, where it ends in deep water. Below Digby Gut, the 3 mile ledge and 5 mile ledge are composed of hard gravel and red clay ; above the Gut, the 3 mile ledge has a rough, rocky bottom, on which anchors are frequently lost. Each of these ledges is about a mile in width, the outer one something more ; between them the bottom is soft mud.

In April, the small Rock Cod strike in on the South Shore, which they follow up to Cape Split, whence they cross to the New Brunswick side of the Bay. This is the opinion of the Yankee fishermen, who follow them at that season, fishing close in shore ; and with them, they take many Halibut of large size. On the ledges, the best fishing is in June and July ; but the fishing continues until the end of September. The Cod taken on the ledges, in June and July, are well fed fish, 30 of which, on the average, will make a quintal. Pollack strike in generally during July ; but the past season they made their appearance in May ; the fishing for them usually lasts until the end of September—their average size is 40 to the quintal.

On the ledges, line-fishing on the bottom can only be followed on the "slacks" of the tide ; during the run of the tide, the fishermen employ themselves in taking Pollack by trailing near the surface. Large Hake are often taken on the ledges, with the Cod ; thirty of them will make a quintal. It is supposed, that these Hake feed upon the soft bottom between the ledges, it being such as Hake are usually found upon, and that they venture occasionally upon the ledges, or are in the act of crossing them, when taken.

ANNAPOLIS BASIN.

In this beautiful Basin, long celebrated for its fisheries, Cod, Pollack, Hake, Haddock, and Halibut, are taken, nearly all the year round ; and here also are caught those delicious small Herrings, which when smoked, are known everywhere as "Digby Chickens." Small Salmon ascend the Annapolis River, and its branches ; Shad are taken in the Basin, in July ; Smelts are exceedingly abundant in the spring ; Flounders are taken during the whole summer ; Cod are best in the autumn ; Mackerel frequently enter during the season, and are caught,

in the Herring weirs; Eels may be caught in any quantity; Lobsters are found in various parts of the Basin; Clams are to be had everywhere on the flats, and the American fishermen frequently land to dig them for bait; on Bear-Island Bar, there are extensive beds of large Scallops; Shrimps abound in the Gut, where numbers of Porpoises are shot by the Indians, while chasing the small Herrings.

The principal fishery, however, is that for the small Herrings to be cured by smoking, which are taken altogether in brush weirs, not exceeding 8 feet in height; these are renewed every season, the ice usually carrying away the greater portion of them, at the close of the winter. The weirs on the Clements side of the Basin were visited by the writer, and the following information was there obtained, chiefly from Mr. Simon Wm. Riley of Annapolis, Messrs. Ditmars and Wm. L. Ray of Moose River, and Messrs. Ditmars of Bear River. The writer was assisted in obtaining information by George Milledge, Esq., of Annapolis, to whom his acknowledgements are due.

There were 47 weirs in Annapolis Basin in order for fishing during the past season; the catch of fish was unusually small, much smaller than it had been for years. Formerly, the quantity of Herrings cured in this Basin, was from 25,000 to 30,000 boxes annually; and twenty years ago, the average catch of every weir, was 2000 boxes each season. The whole quantity cured during the season of 1850, from the catch of all the weirs in the Basin, was supposed not to exceed 2000 boxes.

The small Herrings enter the Basin at the last of May, but the great bodies of fish come in June and July; after passing through the Gut, they follow up the Granville Shore to the Potter Settlement, near Annapolis, and thence strike over south-westerly, to the Clements side, directly across a large bar, or middle ground. On this bar, weirs were first put up about 3 years since, and they are dry at very low spring-tides only; some of the weir owners on the Clements Shore, complained greatly of these weirs, which, they say, have broken up the schulls of fish, and rendered their weirs of no value, as they catch nothing. Mr. Ray said, that he formerly cured 1400 boxes of Herrings every season, from the catch of his weir near Moose River; the quantity gradually diminished to 400 boxes, and after the weirs were placed on the bar, it fell off to 200 boxes; during the season of 1850, he did not get a single fish.

The first Herrings of the season are of all sizes, from four

inches in length, up to the largest. In June and July the schalls are of more uniform size ; the best fish for smoking, are 8 or 9 inches in length, a round, fat, handsome, Herring—those less than 7 inches in length are not smoked.

It was alleged by Mr. Riley, of Annapolis, that about one half of all the fish caught in the weirs, are entirely lost ; almost all the weirs are dry at low water ; and he stated that he had sometimes seen 300 or 400 barrels of small Herrings taken during a single tide, left in the weir to spoil. The weirs are not opened on Saturday night ; and as the fish are not removed on Sunday, they are wholly lost ; some of the weirs have gates, but very many of them have not. It was further asserted by Mr. Riley, that the people were too lazy to remove the spoiled fish from their weirs, where the mud immediately made over them ; and in a good fishing season, the Herrings would accumulate in a weir to the depth of two feet. Some of the fish thus left to be buried in the mud last season, were bought by Mr. George Millidge, who carted up 200 barrels of them, to add to his compost heap ; and of this case there was no doubt. But Mr. Riley's statements were denied by Mr. Ray, who said that the weir owners were very particular in cleaning out their weirs, as if dead fish were left in them, the live ones would not enter, and no more would be caught. As it is quite certain that this fishery has fallen off to such an extent, as forebodes its ceasing altogether, the causes of its decay are suggested as a fit subject of enquiry, in Nova Scotia.

The Messrs. Ditmars are among the best curers in the Basin, and the mode in which they cure "Digby Chickens," is as follows :—The fish are scaled by being washed in bushel baskets with a square bottom, open like a coarse sieve, the men standing in the water up to their knees. The best fish have very few scales, and only half a bushel of them are taken in the basket at once ; they are washed and shaken with great care, to prevent their being broken. They are then salted in large tubs, the salt being stirred through them by hand ; the quantity used, is half a bushel of salt to two and a half barrels of fish, which are a tub full. They lay in salt 24 hours, and are then washed in fresh water to prevent their becoming "salt burnt ;" after this, they are strung on rods, with their heads all one way, and then hung up in the smoke house. In Clements, the smoke houses are usually 30 feet square, with 14 feet posts, and a high roof ; no fish hang nearer the fire than seven feet, but the most careful curers do not hang them nearer than eight feet. Rock maple *only* is used

for smoking; when it cannot be procured, ash is used, being considered the best description of wood after rock maple. Beech and birch are deemed very inferior; and it is thought that prime "Digby Chickens," to possess the most perfect cure and finest flavour, must be smoked with rock maple alone.

The process of smoking usually occupies 8 weeks; and it requires the whole time of one person to watch the fire, and attend to the smoking, in which much judgement and great care are required. The smoke is usually made up at night-fall, and again before day-light, unless the weather is warm and wet, during which no fires are made. In fine weather, the smoke-houses are thrown open during the day to cool; and the greatest care is taken, at all times, to keep down heat, and to render the smoke-houses as cool as possible, by numerous windows and openings. After being smoked, the fish are packed in boxes of the established size; these are 18 inches long, 10 inches wide, and 8 inches deep, measured on the inside; and there should be 12 rods, or 24 dozen of fish, in a box of prime Herrings. If the fish are large and of the best quality, it requires some pressure to get this number into a box.

The differences between the mode of curing smoked Herrings in Annapolis Basin, and that in use at Grand Manan and Campo Bello, consist principally in the greater care in washing the fish, and handling them in baskets, in small quantities; in hanging them at a greater distance from the fire; in the use of rock-maple, almost exclusively, for smoking; and in precautions taken to keep the smoke-houses cool at all times, while the process of smoking is going on.

In Ure's Dictionary of Arts, Manufactures, and Mines, (article "Putrefaction") the process of curing provisions by smoking is thus described:—"SMOKING. This process consists in exposing meat previously salted, or merely rubbed over with salt, to wood smoke, in an apartment so distant from the fire as not to be unduly heated by it, and into which the smoke is admitted by flues at the bottom of the side walls. Here the meat combines with the empyreumatic acid of the smoke, and gets dried at the same time. The quality of the wood has an influence upon the quality and taste of the smoke-dried meat; smoke from beech wood and oak, being preferable to that from fir and larch. Smoke from the twigs and berries of juniper, from rosemary, peppermint, &c. imparts somewhat of the aromatic flavour of these plants. A slow smoking with a slender fire, is preferable to a rapid and powerful one, as it allows the empyreumatic principles time to penetrate into the interior

substance, without drying the outside too much. The process of smoking depends upon the action of the wood acid, or the creosote, volatilized with it."

The writer sincerely hopes, that from the information here given with reference to the cure of smoked Herrings in the Basin of Annapolis—which have hitherto borne the highest character, and obtained the largest price—the curers of Grand Manan and Campo Bello may draw some hints for their guidance, which will enable them hereafter to cure their fish equally well, and compete successfully with the "Digby Chickens."

BRIER ISLAND.

There is a large fishing population in the Brier Island fishing district, which includes Long Island, and part of the adjacent shore. From the best information that could be obtained, it was found that this district sends to the fisheries between 40 and 50 vessels, from 15 to 30 tons each, and upwards of 100 shore boats. The vessels have generally five men, and the boats two men each.

The Cod fishing commences about the 20th of April, and continues until October. The first fishing is inshore, at the distance of half a mile, to a mile and a half from the land; as the season advances, the fish go off into deep water, on the ledges. Pollack fishing, the next in importance, begins about the 15th of June, and lasts until the end of September; they are caught chiefly on "the rips" occasioned by the conflict of tides; those caught off Brier Island will average 35 or 40 to the quintal. In the latter part of the season, it requires the livers of 18 quintals of Pollack only, to make a barrel of oil;—they must therefore be in fine condition, and prime fish.

Captain Laffoley, a native of Jersey, who has lived 32 years at Brier Island, stated to the writer, that the principal fisheries there, were those for Cod and Pollack. From that Island, the fisheries are prosecuted chiefly in Chebacco-boats and Shallops, from 16 to 24 tons burthen; in these the fish are split and salted on board. In the spring, they fish off the western part of Brier Island, and thence to Cape St. Mary, in 15 to 60 fathoms water, with a tide of four knots. At mid-summer, they fish in 60 fathoms water, off Bear Cove, (Petite Passage) and thence to the "west-north-west Bark," about 9 miles from the land, in 15 to 30 fathoms water, with a 6 knot tide. Of course, bottom fishing can only be prosecuted on "the slacks." During the summer, the fishing vessels some-

times run down to the Lurcher Ledge, 20 miles S.S.W. from Brier Island, and there fish in 15 to 30 fathoms water; at this ledge they rarely fail to get a full fare of Cod in a few days, with favourable weather. On the fishing grounds mentioned, it is very rare to take either Hake, or Haddock, the bottoms being rocky and very rough. Halibut are very abundant, and of large size, especially upon a bank, 6 miles west of Brier Island. In summer, they are frequently a plague to fishermen, who shift their ground to avoid them, as they soon fill up a boat or small vessel. Captain Laffoley said, he had frequently seen Halibut thrown on the beach as worthless, the fins and napes only being cut off; in spring much Halibut is dried, but in summer it will not dry, as the flies spoil it at that season.

The fair average catch of a Brier Island fishing vessel, by line-fishing during the summer, is 100 quintals of fish to each man.

The mode of curing Cod was thus described by Captain Laffoley, as that generally followed by those who desired to make dried fish of the first quality. Before being split, the fish are washed; after being dressed and split, they are again washed. Cod are salted with half a bushel of salt to a quintal of fish; in summer not quite so much, as then they take salt quicker. They lay in salt five or six days, after which they are washed, and put in pile to drain for 24 hours; they are then put on the flakes to dry. After eight or nine days of fine weather, they are put in press-pile, in which they remain a week or more to sweat; they are then spread out again on a fine day, after which they are put once more in press-pile, in which they remain, until they are put into store, or shipped for exportation. The Cod caught in deep water off Brier Island, are exceedingly large, thick, well fed fish, of the best description. Some of these cured by Captain Laffoley were inspected by the writer; they were 14 to the quintal, and could hardly be surpassed, either in the intrinsic excellence of the fish, or the admirable manner in which they were cured. If the fish caught in the Bay of Fundy were all cured in the same perfect manner, there would be no complaint of the want of markets; wherever they might be sent, they would be highly prized, and would at all times command remunerative prices.

The superiority of the large well fed Cod, caught in the exceedingly cold and deep water of this part of the Bay of Fundy, especially for table use, is perfectly understood by the American fishermen, who resort to these grounds every

season, in great numbers. Whole fleets of American fishing schooners appear off Brier Island in the Spring as soon as the fishery commences ; and it was complained by Capt. Laffoley, as also by other fishermen of the same locality, that these vessels disturb the fisheries in a variety of ways. If they cannot buy bait, these fishermen come inshore, set their own nets in the best places, and in fact, do just what they please from mere superiority of numbers.

Herrings make their appearance about the 10th of April every season ; these are the large spawning Herrings, full of roe. At Brier Island, they are chiefly taken for bait ; but at Long Island, and on the South shore up to Digby Gut, and for some distance above, many are taken in set nets and put up for sale. The nets generally used are 20 fathoms long, and 4 fathoms deep, with a mesh of 2½ inches ; these are set " off and on " shore, with grapnels and buoys.

The deep-sea Herring fishery commences at the end of May ; it is prosecuted in open day light, at half a mile to six miles from the land, with the same nets as in spring. Wherever the fish are seen to break, the nets are thrown over and allowed to remain in the water from five to ten minutes only ; they are then taken in, cleared of fish, and again thrown over—this is continued as long as any fish can be taken. These are excellent Herrings, and the fishing continues for them until the middle of July. After that time, the Herrings strike over to the " rippings " of Grand Manan, where they continue to play during the rest of the season, these " rippings " abounding with Shrimps in vast quantities. At the full and change of the moon, on the spring tides, the Brier Island fishing vessels go over to fish on the " rippings," as during those tides, the Herrings are found there in greatest abundance.

No Capelin has ever been seen at Brier Island ; the shores are probably too rocky, and there is too much tide and surf. Squid, (Cuttle-fish—*sepia arctica*,) in some seasons, appear in August, and continue until October ; they are by far the best bait, whenever they can be procured.

Israel Outhouse, a fisherman residing at Petite Passage, said the average catch of each man, in the shore boats, was 50 quintals of fish during the season. It was formerly much more, but has decreased of late years, owing, as he believes, to there being more fishermen on the ground. The Mackerel fishery, he said, was very uncertain ; sometimes very good, and then none at all. A few only were taken during the past season ; these were caught solely by line fishing on the trail,

and not with jigs, in the American fashion, that mode of fishing not being generally understood or followed.

Mr. Payson, a magistrate of Brier Island, Mr. Robert Cutler Jones, and other gentlemen connected with this coast, are clearly of opinion, that the Herring fishery might be prosecuted profitably to a much greater extent than at present; and they agreed, that the Cod taken off Brier Island, especially on the west-north-west bank, were probably as fine, well fed fish, as could possibly be found anywhere. Their excellence, they said, was fully admitted by the Americans, who came there to fish, expressly with the view of curing the Cod they caught as "table fish," which bring a high price in their own market.

Mr. Benjamin H. Ruggles, of the Customs Department at Westport, Brier Island, furnished the following information as to the fisheries there. After describing the mode of curing Cod, as already stated, Mr. Ruggles says:—

"Herrings, in general, are badly cured with us. The summer Herrings, in particular, require much care; they should be split with a knife, scraped inside, and then passed through clear, cool water. Each fish should be separately filled with salt and packed away, not to be again repacked. None should be branded No. 1, unless cured in this manner; our fishermen are too eager for quantity, without regard to quality; but the law of this Province relative to the inspection of pickled fish, has caused more caution than heretofore.

"I believe that if no Herrings were allowed to be entered at the Custom Houses in New Brunswick, but those legally cleared from some Custom House in this Province, it would prevent much imposition on the country people of New Brunswick. As it is, many Herrings are clandestinely shipped from this Province and sold in New Brunswick, by which many are shamefully deceived, and the character of the fish is greatly injured.

"I am well convinced that if the Americans were allowed to fish in common with our fishermen, in consideration of our fish being admitted in the American market free of duty, it would be to our advantage. The Americans at present enjoy all the fishing grounds of any worth in the Bay of Fundy; and all they require is, the liberty of taking bait freely, of which they now procure a supply clandestinely. The American market, even with the present duty, is a rather better market for our best quality of dry fish, than can be found in the Provinces."

The following return of the boats, vessels, and men, belonging to the Parish of Westport and employed in the Fisheries, also the quantity of Fish caught by them during the season of 1850, is furnished by Mr. Ruggles :—

Number and description of Boats and Vessels employed.	No. of Men.	Fair average catch per man, of the products of the Fisheries.	Qlts. dry Fish.	Brls of Herrings.	Brls of Cod.
48 open boats, 2 men each,	96	70 quintals dry Fish per man, 6 barrels Herrings per do. 1 barrel Oil per do.	6,720	576	96
26 decked vessels from 10 to 30 tons, average 5 men to each,	130	90 quintals dry Fish, per man, 100 barrels Herrings, each vessel, 2 barrels Oil, per man,	11,700	2,600	260
6 vessels in all 240 tons, one trip to the Magdalen Islands in the Spring for Herrings.	30	350 barrels Herrings, each vessel,	..	2,100	..
Total, men	256	Total,	18,420	5,276	356

The quantity of Herrings smoked at Brier Island is small, not exceeding 500 boxes in a season.

The valuable and varied fisheries of St. Mary's Bay were not inspected by the writer, whose inquiries in the Bay of Fundy, terminated at Brier Island.

GENERAL OBSERVATIONS.

THE CURE OF FISH.

It is quite clear from what has been previously stated, that all the fish taken in the Bay of Fundy, on the New Brunswick side, are very badly cured, whether pickled, dried, or smoked ; and there is besides, great deficiency in the weight of barrels of pickled fish. In fact, no reliance whatever can be placed upon the inspection or the weight of fish, although the barrels may bear the brand of an Inspector regularly appointed. Besides being highly injurious to the interests of commerce, and to the advancement of the fisheries, it is highly discreditable to allow the laws to be thus openly evaded, and set at defiance.

The fish of the Bay of Fundy when drawn from the water, are most excellent ; they can scarcely be equalled and certainly not surpassed elsewhere. Yet these admirable fish, either from ignorance, neglect, or laziness, or all combined, are so wretchedly cured, as only to be fit for the poorest markets, and are only sold because there is an insufficient supply of fish generally. While thousands of quintals of Cod, caught in the Bay of Chaleur, and cured in the best manner on the shores of

New Brunswick, have been shipped annually by the Jersey merchants from Shippagan and Caraquet to Brazil, Spain, Portugal, Sicily, and the Italian States, not a single quintal of fish has been sent from the Bay of Fundy to the markets of the Mediterranean, because none have been cured fit to send! And even of the second and third qualities of fish (distinguished as "Madeira" and "West India") the cure has been so indifferent, that their shipment to foreign markets has almost invariably been attended with loss to the exporter.

The following letter from Edward Allison, Esquire, a highly respectable merchant of this city, who is earnestly engaged in endeavours to open various branches of trade with distant foreign markets, explains clearly, and distinctly, the frauds to which exporters are subjected, and the losses accruing from badly cured fish:—

Saint John, 20th November, 1850.

SIR,—For several years past, our house has been among the principal exporters of fish—largely of Alewives to the United States, and to a considerable extent, in Cod, Hake, Haddock, &c. to the British and Foreign West Indies.

Our cure of Alewives has generally given satisfaction; but there is great dissatisfaction as to the inspection, and more especially as regards weight. This is of much consequence, and in seasons like the past, when fish were scarce, and more valuable than salt, there has been a general deficiency of fish in the barrel. In fact, with the exception of a few brands, no dependence as to character or weight is given by the inspection. I believe that the pickled fish are rarely, if ever, weighed prior to packing. An ordinary Herring barrel, which is, I believe, 17 inches in the head, and 31 inches in the stave, will not contain 200 lbs. of Alewives, unless packed with great care and attention. The short weight of our Alewives has already produced its effect upon their character, and in the West India markets they will not sell at full prices, *unless subject to being re-weighed*. We are aware of a serious deduction having to be submitted to, in a parcel shipped to Jamaica a few months since. They were sold at a good price, but on delivery were found so short of weight, that the deduction swept away all profit, especially as duties and expenses were paid as upon a merchantable article. In re-packing a parcel also for the ship "Courier," for the market of Mauritius, we found scarcely a barrel to contain more than 160 lbs. or 170 lbs. of fish, although inspected and branded, "No. 1, 200 lbs." This is a serious

evil, and must be remedied, or it will destroy the export trade in this article.

We are told that the *empty barrels* are frequently branded prior to packing, and I am informed, they are so delivered at the cooperage. The Corporation should nominate only persons of character to fill the responsible office of Inspector; on their being sworn in, they should take substantial bonds for the faithful performance of the duties, and deal rigidly with delinquents. This we think the most salutary way to correct the serious evil which now exists. The Corporation should also take care to prosecute those who act as Inspectors, without qualifying themselves. We could name those who have branded as Inspectors this year, but who have not been licenced to do so, and they escape because not prosecuted.

The Codfish, Hake, and Haddock brought to this market are certainly very inferior in quality to those shipped at Halifax, and I much fear that our exports of dry fish will not be an important item, until the quality is improved. This does not apply so much to the fish, as to the want of care and attention in splitting, curing, and drying. I can safely say, I have not seen a *strictly merchantable fish*, since I have resided here—I mean such fish as are shipped from Halifax, Newfoundland, and Cape Breton. There the fish are so completely cured and dried, that many are shipped *in bulk*, to Europe and South America, and reach their destination in good order; while the best we can get here, carefully screwed, rarely reach their destination in as good order as we would wish. The fault is—want of care in splitting and salting, but more especially in drying; we rarely get them so dry, as not to show pickle under the screw. This is not known elsewhere, and until our fish are better *made*, they are not fit to ship.

During the past few years, we have made various shipments of fish to foreign ports, and with but doubtful success, arising from their delivery in bad order; and we are almost discouraged from shipping dry fish until we can purchase an article better prepared for a sea voyage.

Your obedient servant,

EDWARD ALLISON.

M. H. Perley, Esquire.

In a note to the writer which accompanied the above letter, Mr. Allison says—"To contend with, there is much ignorance, carelessness, and unwillingness to learn. and it will require all your patience to accomplish the object you have in view."

Much of the difficulty arises from local circumstances. Our fishermen have a choice of markets between St. John and Eastport, and if they get flour cheaper at the latter, it is an inducement to take their fish there. The evil is, that our people have no certain market; they go to-day to Eastport; to-morrow to St. John, or elsewhere; in the meantime they get into a careless way of attending to their fish, not preparing them for any market *especially*, and not expecting to keep them long on hand, they do not dry them, as they should do."

The advantages which have arisen from the careful inspection of Herrings in Scotland, and the great confidence given by the official brand affixed by the Officers of the Board of British Fisheries, to Scottish Herrings in foreign markets, have been stated in the writer's preceding Reports. Since those Reports were presented, certain resolutions passed by the Chamber of Commerce of Wick and Pulteney Town, and laid before Parliament, have been received, the substance of which may be thus briefly stated. The first resolution states, that before the establishment of the Fishery Board, the total quantity of Herrings cured in Scotland amounted to about 90,000 barrels, which have been increased by the Board's exertions to 600,000 barrels, while the mode of curing, assorting, and putting up, or preparing, for various markets, had been improved in at least a similar ratio. The next resolution states, that the increase in the exportation of Herrings to foreign markets could not have been arrived at in so short a time, but for the care taken in affixing the official brand, which serves as a passport in all foreign countries, freeing the trader from many expensive and vexatious regulations formerly enforced by foreign governments.

In consequence of the full reliance placed upon the official brand in Scotland, barrels of Herrings bearing it, are transported from hand to hand on the Continent, with the utmost confidence, and transported to the most distant parts of Europe. In 1849, it was represented to the Fishery Board by the most influential merchants of different cities on the Continent, that the large commercial dealings in which they engage with Great Britain for Herrings, are undertaken and maintained upon the faith of the Government Brand, and that nearer markets would be resorted to, but for this attestation of quality stamped upon British Herrings.

FOREIGN MARKETS FOR FISH.

As a knowledge of the markets for fish properly cured, is matter of great importance, the writer has been at some pains to acquire information as to the amount of duties and restrictions on the importation of British fish into various countries in Europe and America, which is here submitted.

A large proportion of the pickled Herrings of Scotland go to Prussia, and the States under the Germanic Union of Customs; this is in consequence of the low duty. In the Germanic Union, the duty is 3s. sterling per barrel on salted Herrings, and 1s. per barrel on smoked Herrings; the quantity of Scotch Herrings sent there annually is 150,000 barrels.

Austria, an adjoining country, to which there is easy access from Prussia, probably receives some of the British Herrings; but the duty there is 4s. sterling per barrel, besides a transit duty of 1s. 6d. per barrel on all Herrings passing through Prussia, to Austria or Poland. In consequence of these duties, British Herrings, instead of becoming a staple export to Austria, as they ought to be to the Catholic population of that large empire, are reserved as objects of luxury for the higher classes. The loss of a direct trade with Austria, deprives the British merchant of a rich market, which would carry off many thousand barrels of Herrings.

Russia is another country to which a large export of Herrings might be made, but a heavy *ad-valorem* duty is assessed upon them, the value being calculated from the first imports of the season, which bring an extravagant price. In Russia, also, fish are exposed to the injurious practice of *braacking*, which consists in opening the barrels, and removing the contents to inspect them.

In France, the duties on the importation of fish are as follows:—Foreign fish by French vessels, per 100 killograms, 40 francs, or £1 12 6 sterling; if imported in foreign vessels, or by land, 44 francs, or £1 15 2 sterling. These high duties entirely exclude British fish from the French market.

In Holland, the importation of all kinds of salt fish is prohibited.

In Belgium, the Duties on British fish of every kind vary with the season at which the importation takes place, as also whether imported in a British or foreign vessel; but all the duties are so high as to exclude Herrings and dried fish.

No British fish have been sent to Sweden or Denmark; the reason for this is not ascertained, but the extensive fisheries of Norway preclude the hope of a market in that quarter.

Smoked Herrings are sent from Scotland to Geneva, Leghorn, Naples, Sicily, Venice, and Trieste. In Naples and Sicily, the duty is estimated as 10s. per barrel, which added to the freight, renders the article a luxury, and keeps it from the greater part of the population.

Imports of British fish, on a small scale, are received in Sardinia, Tuscany, the Roman States, Greece, and the Ottoman Empire, with all of which, a trade of some extent might be established, but for the uniform system of high duties kept up in each.

One or two vessels are cleared annually at St. John's, Newfoundland, with dried fish for the Ionian Islands, and for Egypt; but of the value of the trade in those quarters no exact information has been obtained.

In Portugal, the duty on cured fish is fixed at 1,600 reis, or about 9s. sterling per quintal. The object of this high duty was to protect a fishing company whose operations have failed, and it is now urged, that Portugal ought to relax this duty, and allow the admission of British fish, on terms in accordance with the reciprocal good relations which subsist between Portugal and Great Britain as to other articles of general commerce.

In Spain, foreign fish of all kinds, fresh, salted, or dried, except Codfish and Stockfish, are prohibited. If these are imported in the vessels of Spain, a duty of 30 per cent. is charged; if in foreign vessels, the duty is 40 per cent. and this difference gives the carrying trade to the Spanish vessels. Great numbers of Spanish vessels resort annually to Newfoundland for cargoes of dry fish, and some of these vessels have also visited Halifax for the same purpose. But none of the vessels of Spain have yet visited the Ports of New Brunswick, although the fish caught near its shores are equally as good as those of Newfoundland and Nova Scotia—their cure is so bad, that they are altogether unfit for the market of Spain.

With the Spanish Islands of Cuba and Porto Rico, an extensive trade might be carried on in fish, in return for tropical products, if the fish of New Brunswick were properly cured and dried to stand the climate, and give satisfaction to the consumers. The writer has procured from Washington, translations of the several tariffs of duties levied on fish, in Cuba and Porto Rico, from which it appears that there are four separate rates. The lowest rate is on Spanish fish, imported direct in a Spanish vessel; the next, on foreign fish imported

from Spain in a Spanish vessel ; the third rate, is on fish imported direct from foreign countries in a Spanish vessel ; and the fourth and highest rate, is on foreign fish, imported in a foreign vessel. Under the last of these rates, pickled Herrings are subject to a duty of 33½ per cent, the value being established at an uniform rate of \$4.50 per barrel ; the amount of duty is therefore \$1.52 per barrel. Dried fish of all kinds pay a duty of 27½ per cent. the value being fixed at \$3.50 per quintal of 100 lbs. ; the duty is therefore 97 cents per 100 lbs. When foreign caught Herrings and dried fish are imported in a Spanish vessel, they pay rates of duty amounting to \$1.07 per barrel on Herrings, and 69 cents per 100 lbs. on dried fish. If vessels load a full cargo of produce at any of the Ports of Cuba or Porto Rico, an allowance of one-fifth is deducted from the duty on the inward cargo. The tonnage duty on foreign vessels is 77 cents per ton ; but if they load with full cargoes of Molasses, they are free from tonnage duty.

Some of the badly cured fish, mentioned by Mr. Allison, which were shipped to Cuba last season, having been sold there, the following is furnished as the account sales, dated Matanzas, November 26, 1850 :—

Sales,

50 drums fish, weighing 22,005 lbs., sold at \$2½, \$605 1

Charges,

Note of Duties, - - - - -	\$2	1
Duties on 22,200 lbs., at \$3½, - - - - -	217	5
Balanza—1 per cent. on Duty, - - - - -	2	1
Freight per Bill of Lading, - - - - -	58	2½
Labour, weighing, and delivering, - - - - -	10	0
Commission, 5 per cent. on \$605 1, - - - - -	50	2
	320	3½

Net proceeds, - - - \$284 5½

In Brazil, the duty on dried Cod is 2,500 reis the quintal of 100 lbs. ; on other fish, the duty is 25 per cent. on their valuation. At Pernambuco, on the 21st October, 1850, the price of dried Cod was 10 milreas 200 reis the 100 lbs. The exchange was then at 28½ pence Sterling the milrea ; consequently the price of dried Cod was equal to £1 4 11 sterling per 100 lbs., and the duty 5s. 11d. on the same. The milrea is an imaginary currency, the value of which is governed by the exchange on London, and fluctuates accordingly.

In the United States, all fish pay a duty of 20 per cent. *ad-valorem*, under the tariff of 1846. Besides the markets for fish in the sea-board Cities of the Union, there is a large and growing demand for fish in those States which border on the Great Lakes, and which may be supplied through Canada, by the Saint Lawrence. There would seem to be an almost unlimited demand for pickled Herrings, as well in those States, as in Canada West, if caught in proper season, and well cured; when sufficient care in these respects is taken, the rapidly increasing population of the vast fertile districts of the West, near the Great Lakes, whether Canadian or American, will long continue to offer a sure and profitable market for the products of the fisheries.

The Honorable Commissioners of the Board of British Fisheries having intimated their readiness to furnish information, the writer applied to them for a statement of the prices of Herrings and dried fish in Scotland, with the view of comparing them with the prices obtained in New Brunswick. In reply to the application, the following letter was received:—

*Board of British Fisheries,
Edinburgh, 2d January, 1851.*

SIR,—I duly received your letter of 19th November, 1850, requesting two copies of Capt. Washington's Report on Fishing Boats, and also a statement of the average prices of pickled Herrings, and dried and pickled Cod in Scotland; and having laid the same before the Honorable the Commissioners of the Board, I have by their directions forwarded to you by mail, the two Reports in question. I now beg to subjoin a statement of the prices required by you, which have been taken in the month of September, and for the five years from 1846 to 1850, both inclusive.

The Commissioners have desired me to return you their thanks for the promise of sending a copy of your Report, when published. I have the honor, &c.

B. F. PRIMROSE, Secretary.

M. H. Perley, Esq.

PRICES OF HERRINGS FROM THE LEITH PRICES CURRENT.

		White Her'gs, p. bbl.	Red Her'gs, p. bbl.
September 1846,	- - -	14s. to 18s.	16s. to 18s.
" 1847,	- - -	20s. to 22s.	20s. to 22s.
" 1848,	- - -	17s. to 19s.	17s. to 19s.
" 1849,	- - -	10s. to 17s.	6s. to 16s.
" 1850,	- - -	15s. to 18s.	14s. to 16s.

Prices of Dried Cod Fish, from private information.

September 1846,	- -	average	15s. per Cwt.
" 1847,	- -	do.	14s. do.
" 1848,	- -	do.	14s. do.
" 1849,	- -	do.	15s. do.
" 1850,	- -	do.	15s. do.

Dried Ling fish may be quoted 1s. per cwt. higher than the above.

The fish cured at the Stations, agreeably to the Board's printed directions, and punched by its officers, were sold and shipped for the Spanish market, at prices from 7 to 10 per cent. higher than the above quotations. Pickled Cod-fish per barrel sells generally from 18s. to 24s. London is the principal market for this article; and when the barrels are inspected and branded by the Board's officers, they sell from 25s. to 40s. per barrel.

B. F. PRIMROSE, *Secretary*.

The Island of Jersey presents a market for pickled Herrings. A parcel of the "Quoddy Herrings" shipped from Campo Bello, netted the shipper 22s. 6d. sterling per barrel. There are no duties in Jersey, and port-charges are very low.

FISH BARRELS.

In connection with the question of foreign markets, the quality of the barrels in which pickled fish ought to be shipped, is very material. In Scotland, heretofore, barrels of hard wood only have been permitted; none other could be used for packing pickled fish. But during the year 1849, the Board of Fisheries arrived at the conclusion, that larch (*hacmatac*) was well adapted for the making of herring barrels. In their Report presented to Parliament in 1850, the Commissioners say, that experiments have been made by them, on the kinds of wood, suitable for herring barrels. The Herrings and the barrels which were the subject of these experiments, were sent by long sea and land journeys to different places on the Continent; they were exposed to much rough usage, and great changes of climate—some were sent far up the Mediterranean. These experiments have proved, that larch wood may be safely used for barrels of pickled herrings, and that it is equal to the hard wood of which barrels are generally made; whilst ordinary fir is quite unsuitable, and its introduction would be highly prejudicial to the sale of Herrings abroad. The experiments were so decisive, that the Commissioners have issued instructions admitting larch wood in the making of barrels, but continuing a strict prohibition of fir.

ALLOWANCES, OR BOUNTIES, TO AMERICAN FISHING VESSELS.

In order to obtain correct information as to the nature and extent of the allowances, or bounties, paid to American fishing vessels, the writer made application at the Boston Custom House, where large sums are paid annually to fishermen, and was kindly and promptly furnished by William A. Wellman, Esq., the Assistant Collector of the Port, with the following letter :—

*Custom House, Boston,
Collector's Office, 14th January, 1851.*

SIR,—The Statutes under which we pay allowances or bounties to fishing vessels, are scattered through the various volumes of the Acts of Congress from 1793 to 1835; but they may be readily found in Little and Brown's edition of the Public Statutes, published in 1845.

Allowances are paid annually, on the last day of December, to vessels employed during the fishing season, which is accounted to be, from the last day of February, to the last day of November, *vide* Act of March 3, 1819.

By the Act of 1819, chapter 212, we allow to every vessel of 5 tons, and not exceeding 30 tons burthen, \$3.50 per ton; above 30 tons, \$4.00 per ton; above 30 tons, with a crew of 20 and not less than 10 persons, and employed not less than three and a half months, \$3.50 per ton—the bounty on any one vessel not to exceed \$360. Vessels more than 5 tons and less than 20 tons, must land 12 quintals of fish per ton, during the season.

The Act of 1824, chap. 152, prescribes how vessels wrecked may obtain the bounty in certain cases.

The Act of 1813, chap. 2, requires the Skipper of each vessel, before proceeding on a voyage, to make an agreement with the fishermen.

The regulations for fishing vessels to touch and trade at foreign ports, &c., are prescribed in the 21st section of the Act 1793, chap. 99.

The oath of the master, as to the time the vessel has been actually employed in the fisheries during the season, is prescribed by the Act of 29th July, 1813.

By paying monthly wages in money, in lieu of dividing the fish, or the proceeds of the fishing voyage, in the proportions specified by law, the agreement is violated, and the bounty is forfeited. This, by decision of the Treasury Department, 24th

February, 1847, confirmed by the Secretary of the Treasury, January 21, 1836.

A vessel, to be entitled to the bounty, must be actually employed at sea, in the Cod-fisheries, a certain specified time, and must dry-cure the Fish, *vide* Act July 29, 1813.

The Cod fishery and Mackerel fishery are each a trade and employment, or business, and since the Act of 1828, chap. 109, the Mackerel fishery cannot be lawfully carried on under a licence for the Cod fishery.

I have thus given you a summary of the various laws regulating our fishery allowances; but we have voluminous instructions issued by the Treasury Department, from time to time, to meet the questions presented by those claiming bounty. If there are other particular points not alluded to, I will most cheerfully point them out, if you will indicate them.

We pay at this Office annually, about the sum of \$225,000, for fishing bounties. The business is one in which I take great interest, and when your Report is published, I shall hope to receive a copy of it.

Your obedient servant,

WM. A. WELLMAN, *Ass't Collector.*

M. H. Perley, Esquire.

It has been stated to the writer by persons of standing in the United States, that the allowances to fishing vessels are continued, on the ground that fishermen are entitled to a drawback of the heavy duties which they pay on salt, and their outfit for the fisheries generally, besides some compensation for the increased cost of their vessels, arising from the high duties on iron, cordage, canvas, and other articles used in building and fitting them out—such increased cost amounting to ten dollars per ton more than the cost of vessels of similar class and equal description, built and fitted out in New Brunswick.

The regulations for dividing the proceeds of the fishing voyage, instead of paying the crew monthly wages, is intended to compel the crew to catch fish on the voyage, instead of idling away the prescribed time, which the Yankee fishermen call "fishing for the bounty." But if the American fishermen whom the writer met on the Coast are to be believed, this regulation is constantly set at nought or evaded, monthly wages being paid by a large proportion of the vessels. With the whole system of the American fishing bounties, there appears to co-exist an organized system of frauds; and the

voluminous instructions of the Treasury Department, issued from time to time, to meet those cases, clearly prove that notwithstanding all the care, and caution of the United States Treasury Department, and all the vigilance and astuteness of its many excellent officers, vast sums of money go annually into the pockets of unscrupulous men, while it is exceedingly doubtful if the actual fishermen are at all benefited thereby.

THE DESTRUCTION OF FISH ON SPAWNING GROUNDS.

The obstructions which exist to the passage of fish up the various rivers falling into the Bay having been noticed, and the principal rivers mentioned in which Salmon are destroyed while in the act of spawning, it only remains to advert to the destruction of spawning Herrings on the coast.

The great spawning place for Herrings in the Bay of Fundy, is undoubtedly, that at the Southern Head of Grand Manan. It begins at the eastern part of Seal Cove, at a place called Red Point; thence it extends westerly to the southern extremity of the Island; and thence around the Southern Head to Bradford's Cove, a distance of more than five miles. The quantity of Herrings which strike in upon this ground during the spawning season, is truly wonderful; but their numbers will soon cease to astonish, if such an extensive destruction of spawning fish as now takes place there annually, is permitted to continue much longer.

In Scotland, the destruction of Herrings on their spawning grounds is most carefully guarded against, as being of the greatest importance to the preservation of the Herring fishery generally, and some useful information may be gained from the proceedings of the British Fishery Board in this matter. In the Report of the Board laid before Parliament in 1847, is the following statement:—

“A letter of the 12th March reached the Board from Mr. John Stewart, commander of the ‘Princess Royal’ Fishery Cutter, again pointing out the very serious destruction to the Herring fishery throughout the whole branches of the estuary of the Clyde, by the illegal fishing which is occasionally carried on, and endures for about fourteen days only, previous to the above date, opposite to Ballantrae in Ayrshire. This seems to be the great spawning place for the Herrings belonging to the Clyde and Loch Fyne, and for this purpose they congregate in incalculable numbers on a bank, which lies about three miles off the shore, and is about a mile and a half long, by

about three quarters of a mile broad, and having about nine fathoms water over it. The spawn lies on this bank to a very great depth, for the smallest net ropes that are let down here are hauled up of the apparent thickness of cables, from the immense quantity of spawn that adheres to them. When taken at this time, the fish are in the worst possible condition as human food, and much more likely to be prejudicial, and to spread disease, than to be nutritious; yet, tempted by the prospect of gain, there were no less than eighty boats engaged in this fishery, which cleared from £30 to £80 each, during the fourteen days it lasted. In order to make their success more certain and effectual, these boats use means which are never resorted to elsewhere. Their nets are only 2½ yards in depth, and 384 yards in length, and they contain about 960 square yards; but they attach a row of heavy stones, four feet apart, to the lower edge of the net, and sink them to the bottom among the spawning fish, so that when the nets are hauled they are covered with a heavier load of spawn than even the weight of their fish, which are so abundant. It is quite impossible to calculate the extent of loss arising to the Clyde and Loch Fyne fisheries, by this fishing, which, though highly remunerative to the few boats' crews which engage in it, must spread disease among the unfortunate purchasers of the fish, who are ignorant where and how they have been caught, and which must bring comparative scarcity on the really sound, productive, and wholesome fisheries, carried on at the proper season in the Clyde and Loch Fyne."

In their Report for 1848, the Commissioners again allude to the destruction of spawning Herrings on the banks at Ballantrae; they state, that they had received numerous petitions from fish curers and fishermen deeply interested in the fisheries of the west Coast of Scotland, complaining of the reckless destruction of spawn, and the fry of Herrings, by which myriads of these useful fish are annually destroyed. The banks at Ballantrae are stated to be well known as the nurseries of the Herrings visiting the western coast, and if the indiscriminate destruction which takes place there, is allowed to continue, the fishermen on that coast will be ultimately ruined, and many thousands of industrious fishermen around the various Lochs reduced to poverty, while the immense capital invested in boats and materials must be rendered wholly unproductive. The Commissioners conclude by urging upon Parliament, the necessity of a Legislative enactment bestowing on them "*certain discretionary powers beyond those they already possess,*

to regulate both the mode and the period of capture, so that they may be enabled to protect the broods of all kinds of sea-fish."

The Herring fishery of the Bay of Fundy will not continue many years longer to any extent, unless an immediate stop is put to the fishery during the spawning season at the Southern Head of Grand Manan. At that season, no Herrings should be caught, on any pretence whatsoever; and the necessity of a Legislative enactment, similar to that sought by the Board of British Fisheries, conferring the like discretionary powers on His Excellency the Lieutenant Governor, in Council, would probably have the effect of leading to a discontinuance of this fishery, and a steady increase in the Herring fishery of the Bay generally.

BRUSH WEIRS AND STAKE NETS.

So great a difference of opinion exists among the fishermen of the Bay, as to the effect of brush weirs upon the Herring fishery, that it is somewhat difficult to arrive at a correct conclusion on the subject.

The erection of Herring weirs has, by implication, been sanctioned by the Legislature, by the Acts for their regulation, and it is not now so much a question, whether they shall, or shall not be permitted, as whether the existing laws are sufficient; and if not, what further regulations and provisions are necessary to prevent their injuring the fisheries.

The weirs between high and low water mark, which are dry at low tide, should be put under careful superintendence, as these, above all others, are calculated to destroy vast quantities of small fish and fry, too small for any useful purpose, except as manure—a dangerous stimulant to the . . . The weirs set up in narrow channels and passages, some of which were noticed on the eastern side of Grand Manan, must also be destructive from their very position, besides being obstructions to navigation.

The proprietors of lands on the sea shore, should be made to understand, that their rights do not in any case extend below low water mark; and a careful watch should be kept to prevent encroachments on the rights of the public, by persons disposing of "fishing privileges," to which they are in nowise entitled.

All weirs should be furnished with gates for the free egress of such fish as ought to pass out again to sea, and this also

requires careful supervision, as very many weirs were found without any gate or opening whatever.

The brush weirs for Shad, at the Head of the Bay, are believed to be most injurious to that fishery, as in almost every case they were found to take the smallest fish only. In Enragé Bay, they ought to be abolished altogether, or at the utmost, only permitted at such season, if any, as might on inquiry, be found not prejudicial to the Shad fishery generally. The stake nets for Shad, also require to be limited in their extent, and when permitted to be set, the mesh to be of the same size as the mesh allowed to drift-nets, and no smaller.

The size of the mesh, both for Salmon and Shad nets, ought to be regulated in such manner as to prevent the taking of small Salmon and young Shad. In the Shad fishery especially, there appears to have been, and still to be, a gradual diminution of the mesh from year to year, with the view of taking a greater number of fish each season; and the effects of the catch of small Shad will soon be felt in the decrease of the fishery.

The use of small meshed nets in the Herring fishery on the Coast of Scotland, is considered so prejudicial, that they are strictly prohibited by law. To prevent the use of such nets in the Firth of Forth, H. M. Steam Vessel "Dasher" has been stationed there during the last three seasons, and such vigilance has been exercised, and so many illegal nets seized, that this unfair fishing has been broken up. On the west Coast of Scotland, H. M. Steam Vessel "Lucifer" has also been employed in a similar manner. Both these steamers, and the "Princess Royal," Fishery Cutter, off the North West Highlands, have at all times been able to render most seasonable assistance to the fishermen, besides repressing the depredations and pilfering of fishing property, which invariably takes place whenever large bodies of fishermen congregate in the prosecution of their business.

SUMMARY:

1. It is quite clear from the foregoing Report, that the imperfect and careless manner of curing the fish caught in the Bay of Fundy, whether from neglect or want of skill, is such as to prevent those fish obtaining the best prices, and prohibits their being sent to distant foreign markets, for which they would otherwise be well adapted; thereby preventing an ex-

tension of the foreign trade of the Province, and diminishing its general prosperity,

2. The laws which exist for regulating the inspection of fish, are everywhere treated as a nullity, except in cases where it is found convenient to affix what purports to be an official brand, for the purpose of giving character to articles which are short of weight and worthless.

3. The enormous destruction of Herrings, and their spawn, at the Southern Head of Grand Manan, is an evil which demands immediate remedy; if this is neglected, the Herring fishery of the Bay of Fundy will fail altogether in a few years, and line-fishing, which so greatly depends upon the supply of Herrings, will fall off in proportion.

4. The closing of the various rivers flowing into the Bay, and their tributaries, by mill-dams; the injuries arising from saw-dust and mill-rubbish being cast into rivers and harbours; and the wholesale destruction of Salmon on their spawning beds far up the rivers, have all been pointed out in this Report. They are all evils that require an immediate check.

5. The intrusion of American fishing vessels upon the fishing grounds of the Bay of Fundy is loudly complained of everywhere by the fishermen of the Bay. Measures are required for keeping these vessels without the limits established by the Convention of 1818, either by requesting the services of some of the smaller vessels belonging to the Royal Navy, or else by employing Fishery Cutters at the joint expense of New Brunswick and Nova Scotia. The Despatch from Lord Stanley to Lord Falkland, dated 17th September, 1845, under which the Americans justify their intrusions in the Bay, is given in the Appendix, with a note of the circumstances which led to its being transmitted.

6. The laws relative to the regulation of brush-weirs and the use of drift-nets, require revision; and enactments are needed to provide for the use of stake-nets and net-weirs, at proper seasons only. Provision should also be made for preventing the use of small meshed nets in every fishery, in order that no fish whatever may be taken until it has attained a sufficient growth.

7. The great step toward increasing the fisheries and rendering them more valuable, is the enactment of a general inspection law, with provisions for the appointment in every

County and district, of competent and trust-worthy Inspectors of dried, pickled, and smoked fish ; and a total prohibition of the sale or exportation of any such fish, unless inspected and branded by the proper officer.

8. The employment of persons skilled in the cure and packing of fish, (such as the curers and coopers of Scotland) to be located as teachers in the most populous fishing districts, would soon spread the knowledge of improved modes of cure, and lead to the fish of the Bay of Fundy being cured in such manner as would fit them for the best markets of the world. The employment of such teachers is respectfully recommended.

9. The enactment of a general law for the protection and regulation of the Sea and River Fisheries of the Province generally, is greatly needed, and would seem matter of absolute necessity. In such a law, power might be given to some central authority, such as the Lieutenant Governor in Council, to make rules and ordinances with reference to minor points, which although apparently trifling, have an important bearing upon the prosperity and extension of the fisheries.

10. On the shores of the Bay of Fundy, as well as on those of the Gulf of Saint Lawrence, the fishermen have great need of better accommodations and increased conveniences. They complain, not wholly without cause, of the paucity of the grants made to assist them in their business, in comparison with those made to other and more favoured interests. As stated in the Report of last year, they require in many places, landing-piers, breakwaters, shelter-harbours, boat-slips and capstans, and moorings for boats and small vessels ; these ought to be provided at the public expense, as one of the best modes of assisting and encouraging the actual fisherman who dwells by the sea side.

11. The establishment of a few superior schools at Grand Manan, Campo Bello, and West Isles, and probably in some other locations, where the young fishermen should be taught Book-keeping, Navigation, some knowledge of Astronomy, and such other branches of learning as might be useful in their calling, would be one of the greatest boons that could be conferred upon this class of persons. An improvement would soon take place in their moral and social condition, and they would not be driven out of the Province to seek employment from persons possessing more education, but in no other respect superior to themselves.

12. The neglect to enforce the provisions of existing laws, or to enact other and more stringent provisions in lieu of such as are ineffective, or too limited in their operation, has led to a great decrease in several branches of the fisheries. A longer continuance of this neglect will assuredly lead to the decay of the fisheries generally, which year by year will waste away, until some disappear altogether, and others become of the least possible value.

M. H. PERLEY.

*Government Emigration Office,
St. John, N. B., March 12, 1861.*

CATALOGUE

[IN PART]

OF THE FISHES OF NEW BRUNSWICK AND NOVA SCOTIA;

By M. H. PERLEY, Esquire, H. M. Emigration Officer at Saint John, N. B.

Fishes are described as vertebrated animals, with cold red blood ; breathing by gills through the medium of water ; without lungs. Body covered mostly with imbricated scales or plates, or with a smooth mucous skin. Move in water by means of fins instead of feet, which vary in number. Reproduction by eggs, which are usually fecundated after exclusion. Heart unilocular, or composed of one auricle and one ventricle. Head various ; no neck. Aquatic. Chiefly carnivorous.

Fishes have been divided into two great groups, viz :—The Bony, and the Cartilaginous. The first comprises by far the greatest number of species.

In these two great divisions, the Fishes of New Brunswick and Nova Scotia, so far as yet examined or known, are here classified and briefly described.

CLASSIFICATION.

GROUP I.—BONY FISHES.

Order 1.—Fishes with spinous rays in their fins.

- Family 1. *Percidæ*. The Perch family.
2. *Triglida*. Fishes with hard cheeks.
3. *Scombridæ*. The Mackerel family.
4. *Lophidæ*. Fishes with wrists to the pectoral fins.
5. *Labridæ*. The Wrasse, or Rock-fish family.

Order 2.—Soft-finned fishes; the fin-rays almost universally flexible.

- Family 1. *Cyprinidæ*. The Carp family.
2. *Siluridæ*. The Sheat-fish family.
3. *Salmonidæ*. The Salmon family.
4. *Clupeidæ*. The Herring family.

Order 3.—Fishes with ventrals under the pectorals, and the pelvis suspended to the shoulder bones—thus better adapted for ascending and descending than the preceding order.

- Family 1. *Gadidæ*. The Cod family.
2. *Pleuronectidæ*. The Flat-fish, or Flounder family.

Order 4.—Fishes in which the ventral fins are always wanting.

- Family 1. *Anguillidæ*. The Eel family.

GROUP II.—CARTILAGINOUS FISHES.

Order 1.—Fishes with free-gills—they have in their gills a single wide opening, and a gill-lid, like the Bony fishes, but no gill-rays.

- Family 1. *Sturionidæ*. The Sturgeon family.

Order 2.—Fishes with fixed-gills—these have the gills attached at the outer edge, with a separate opening, through which water from each gill escapes.

- Family 1. *Squalidæ*. The Shark family.
2. *Raidæ*. The Ray family.

Order 3.—Fish with round mouths formed into a sucker.

- Family 1. *Petromyzonidæ*. The Lamprey family.

DESCRIPTION OF GROUP I,

CONSISTING OF THE OSSEOUS, OR BONY FISHES.

Order 1. Fishes with spinous rays in their fins.

FAMILY 1. PERCIDÆ—THE PERCH FAMILY.

GENUS 1. PERCA.

Species 1. *Perca flavescens*—The American yellow Perch.

This beautiful fish is common in almost all the inland waters of New Brunswick and Nova Scotia. It is of a greenish yellow above, with golden yellow sides, crossed by seven transverse dark bands, the broadest upon the middle of the body; beneath, white. The back, and tail fins, brownish; the other fins, scarlet. Length 6 to 12 inches. It spawns in May, and then resorts to the mouths of rivulets in great numbers.

The common yellow Perch is considered one of the best known, and widely distributed of all the fresh water fishes of North America. It is a northern fish, as its limits extend to the 50th parallel of north latitude.

GENUS 2. LABRAX.

Species 1. *Labrax Lincatus*—The striped Basse.

This fine fish is found on the sea coast of New Brunswick, and it also frequents many of its rivers and lakes. The upper part of the body is silvery brown; lower part of sides and abdomen, a beautiful clear silver colour; eight or more longitudinal black bands running the whole length of the fish, the lower ones terminating above the anal fin. Length, 1 to 3 feet.

The Basse is a salt water fish, ascending fresh water streams to breed, in the Spring, and for shelter during the winter. Very large fish of this species have been frequently taken in the Grand Lake, and the "thoroughfares" therewith connected, by night-lines, in the winter season. The Basse abounds in most of the rivers of New Brunswick which flow into the Gulf of Saint Lawrence. It was formerly abundant in the Basin of Mines, and the Basin of Annapolis, but in each has become rare, owing to its unlimited destruction there at all seasons.

Species 2. *Labrax pallidus*—The little white Basse.

This diminutive Basse is best known by its popular name of "White Perch." It abounds in many of the lakes and streams connected with the River St. John, but it is always found in localities where there is very little current, if any, and upon a soft bottom, in the vicinity of aquatic plants and weeds. The ordinary weight of the "White Perch," is from 4 to 6 ounces; in September, they are often taken above half a pound in weight; the largest seen, weighed a pound. They are a very fine fish for the table, when in season.

GENUS 3. POMOTIS.

Species 1. *Pomotis Vulgaris*—The common Pond-fish.

This description of Perch is very common, in all those waters in which the yellow Perch is found. It is generally from 6 to 8 inches in length, of a deep green-color, mixed with olive, and is easily distinguished by the bright scarlet spot, behind the opercle. Among rural anglers it is known as the "Sun-fish," from the glittering colors it displays while basking in the sun. It is seldom dressed for eating, being an exceedingly bony, dry fish, but is often caught for amusement.

FAMILY 2. TRIGLIDÆ—FISHES WITH HARD CHEEKS.

GENUS 1. COTTUS—THE SCULPIN.

Species 1. *Cottus Virginianus*—The common Bullhead.

2. *Cottus Groenlandicus*—The Greenland Bullhead.

The Sculpin is very numerous on all the fishing grounds of the New Brunswick and Nova Scotia Coasts, and is sometimes a great annoyance to line-fishers, who regard it with much aversion. When freshly taken from the water, and irritated, it presents rather a formidable appearance; but nevertheless, it is said not to be a bad article of food.

When the line-fishers in the Bay of Fundy find the Sculpin biting too freely, they immediately change their ground to avoid it.

Besides the two species named, it is believed that there are several other species, as well as some varieties. The Sculpin ranges the Coast of North America from Virginia to Baffin's Bay, and is a favourite food of the Greenlanders.

GENUS 2. GASTEROSTEUS.

Species 1. *Gasterosteus Biaculeatus*—The two-spined Stickleback.

This diminutive fish abounds in the estuaries of rivers, and in the creeks of New Brunswick and Nova Scotia, to which the sea has access. It is usually found about two inches in length, with two distant spines on the back, and a third near the dorsal; and a strong serrated spine on each side, representing the ventrals. It is exceedingly active in its movements, and will throw itself a considerable distance out of water. Its appetite is voracious; it feeds on worms and insects, and the fry and roe of other fish, great quantities of which it devours.

It is believed that more than one species of Stickleback exists in the waters of New Brunswick and Nova Scotia. They are all very pugnacious, and when confined will destroy each other. They are only worthy of notice on account of their destructive propensities, and because they are sometimes used as bait for larger fish. In some parts of England, they are so abundant that they are employed as manure.

FAMILY 3. SCOMBRIDÆ.

GENUS 1. SCOMBER—THE MACKEREL.

Species 1. *Scomber vernalis*—The Spring Mackerel.2. *Scomber grex*—The Fall Mackerel.

These two species of Mackerel are generally believed to be but one; but Cuvier considers them as different, and in this has been followed by Dr. DeKay of New York. The *Scomber vernalis* is the ordinary Mackerel of commerce, while *Scomber grex* would seem to be those little Mackerel about ten inches in length, which are found in scattered numbers every where, and are called by the fishermen of the Bay of Fundy, "tinker Mackerel," from their wandering habits.

Although the Mackerel is caught in great quantities on the northern Coast of New Brunswick, and within the Bay of Chaleur, as also around the Magdalen Islands, yet it is rarely known to visit the Coast of Labrador. It is stated by Mr. Horatio Robinson Storer, of Boston, who visited the Labrador Coast in 1849, that Mackerel appeared there in great abundance that season, at the Island of Little Mecatina; but no fishing vessels being at hand, they departed again unmolested,

the few settlers on that desolate Coast having neither nets or lines for taking them. The Mackerel fishery of Nova Scotia furnishes one of its largest exports. In 1850, no less than 98,650 barrels of Mackerel were exported from the port of Halifax alone.

GENUS 2. XIPHIAS.

Species 1. *Xiphias gladius*—The Sword-fish.

This fish is met with in the lower part of the river Saint Lawrence, where it enters the Gulf, and is often seen attacking the Whales which frequent that locality. It has been also seen in the Bay of Chaleur, where it was likewise noticed in pursuit of the Whale, to which it is a deadly enemy.

On the coast of the United States, the flesh of the Sword-fish is eaten both fresh and salted. Before being pickled, the flesh is cut into slices, and it is said to remain good for a year; about 200 barrels are put up annually at Martha's Vineyard.

These fish are taken about 15 or 20 miles from land, in pursuit of shoals of Mackerel, on which they feed. They are taken by means of an instrument called a "lily-iron," from the form of its shaft, or wings, which resemble the leaves of a lily. This instrument is thrown like a harpoon, with great force into the fish, the attempt being always made to strike it in front of the dorsal fin.

FAMILY 4. LOPHIDÆ.

GENUS 1. LOPHIUS.

Species 1. *Lophius Americanus*—The American Angler.

This fish has a very disgusting appearance, and its monstrous form has given rise to many popular names, such as "sea-devil," "fishing-frog," "bellows-fish," "goose-fish," "monk-fish," and various others.

The Angler belongs to a small and singular group of fishes, designated by Cuvier, *Pectorales Pédiculées*, from the peculiar formation of the pectoral fins, which are palmated, and shaped not unlike the hand of a child; they are placed very far forward on the body; by these and the aid of the pectorals, which from their position perform the office of hind feet, the fish can creep on the bottom like a little quadruped.

A specimen about 3 feet long was observed on Long Beach,

above Great Salmon River, in the Bay of Fundy, in September, 1850. It was taken in the weir there, which it had entered in pursuit of Herrings. Several specimens were seen in November, 1850, on the shores of Annapolis Basin, near Digby, where they were thrown up by a severe storm. They are said to abound in that Basin, and to be very destructive to the shoals of Herrings which resort there.

Yarrell says, that this fish in its appetite is very voracious, and as it is not a rapid swimmer, has recourse to art to satisfy its appetite. Upon its head are two long, slender appendages, the first of them broad and flattened towards the ends, and at the dilated part, having a shining silvery appearance, not unlike a little fish. While couching close to the ground, the fish, by the action of its ventral and pectoral fins, stirs up the sand, or mud; hidden by the obscurity thus produced, it elevates these appendages, moves them in various directions by way of attraction as a bait, and the small fishes, approaching either to examine or seize them, immediately become the prey of the Angler, and thence it derives its general name.

The head of this fish is wide, depressed; the mouth nearly as wide as the head. The gape of the mouth in the specimens seen was 9 inches; and the numerous double rows of teeth, some recurved and conical, and others long and acute, give the enormous gaping mouth a frightful appearance. These fish are never eaten, but they are sometimes opened for the sake of the numerous fishes found in their stomachs, which are monstrously large, as compared with the length of the fish.

FAMILY 5. LABRIDÆ.

GENUS 1. CTENOLABRUS.

Species 1. *Ctenolabrus Ceruleus*—The Sea Perch, or Cunner.

This fish is common on the Atlantic Coast of North America, from Delaware Bay to the Shores of Newfoundland, and is known by a variety of names. In New York, it is called the "Bergall," a name of Dutch origin; and also the "Chogset," derived from the Mohegan dialect. On account of its prevailing color, it is often called "Blue-fish." At Boston, where this fish is taken in myriads, it is called "Blue-perch;" but among eastern fishermen generally, it is known as the "Cunner."

There is scarcely any fish whose colors are so variable as this species. In the smaller individuals, the general color is

blue, more or less mixed with brown; and faint, dusky, transverse bars may frequently be seen. In the larger species, such as are 12 inches long, the colors are bright and showy, a light orange colored tint pervading the whole body; the head and gill-covers of a beautiful chocolate color, mixed with light-blue; the fins of a blue, more or less brilliant.

The jaws of the "Cunner" are covered with thick fleshy lips, whence this family derives its name of *labrus*, lipped—that is, thick-lipped fishes.

The only specimens of these fish seen by the writer in the Bay of Fundy, were taken with hook and line, in 1844, from the rocks on the sea-shore near Black River, east of the harbour of Saint John. These were of a reddish brown color; the body elongated, compressed, the depth equal to one-fourth of the length.

These fish frequent deep pools among rocks, hide themselves in fact, and are said to feed chiefly on crustacea. Where their haunts are known, and are accessible, there is much fishing for them, on the Coasts of Maine and Massachusetts, with rod and line, for they take bait very readily, the first taken being generally the largest. They are skinned before being dressed; the flesh is sweet and palatable.

Mr. H. Robinson Storer says, they are so plentiful in the Gut of Canso, that by sinking a basket with a salt-fish tied therein, he continually caught them by the score, for a supply of fresh fish while at sea.

Order 2. Soft-finned fishes; the fin-rays almost universally flexible.

FAMILY 1. CYPRINIDÆ.

GENUS 1. CATOSTOMUS.

Species 1. *Catostomus communis*—The common Sucker.

This fish abounds in all the rivers and streams of New Brunswick. It is from 10 to 14 inches in length; the flesh is meagre and tasteless, therefore never used as food.

It is believed that more than one species of the Sucker exists in New Brunswick and Nova Scotia, but the fish being of no value, it has received very little attention.

GENUS 2. LEUCISCUS.

Species 1. *Leuciscus Chrysoleucas*—The yellow Shiner.

The general colour of this very pretty fish, is a beautiful golden; the top of the head and back, black; the gill-covers, a brighter yellow than the sides. Its usual length is from 5 to 7 inches, and it is found in great abundance in those parts of ponds and quiet streams which are frequented by the yellow and white Perch. The writer has taken them in great numbers in the latter part of summer, in the waters near Hampton Ferry; they are an exceedingly delicate, finely flavoured fish, when eaten fresh, and may be considered one of the most savory of the smaller fresh water fishes of New Brunswick. It has received the popular name of Carp, to which family it properly belongs.

Species 2. *Leuciscus Cornutus*—The Red-fin.

This beautiful little fish is found in many of the swift and limpid streams of New Brunswick, associated with brook trout. It is generally about 5 or 6 inches in length, very lively and active in its movements. All the fins are broadly margined with deep scarlet, whence it gets its name of the "Red-fin," although it is also generally known as the Roach. The top of the head is covered with minute pointed tubercles, which are also seen on the sides of the snout, and form a regular series along the sides of the lower jaw.

Species 3. *Leuciscus Pulchellus*—The Roach Dace, or Beautiful Leuciscus.

This fish is somewhat larger than the species last mentioned, but its colour is more silvery, and it has not the brilliant scarlet fins of the Roach, all its fins being light coloured; nor has it the roughness on the top of the head. It is not generally found in swift water, but appears to delight in eddies and pools, where it may be caught in great numbers, when on the feed.

Species 4. *Leuciscus Argenteus*—The shining Dace.

This pretty little fish varies from 2 to 6 inches in length. The whole surface of the body is silvery; rather darker on the back. From its brilliancy, it is usually called the "Shiner."

The three species last mentioned, all take the artificial fly readily, and are often caught by fly-fishers while angling for Trout; the Red-fin is the best for the table.

Species 5. *Leuciscus Cephalus*—The Chub.

The Chub is well known in every river and stream of New Brunswick and Nova Scotia frequented by other fresh water fishes; it is taken of all sizes, from 4 to 16 inches. In the River Saint John, in the Miramichi at Boies Town, and in the Hammond River, the writer has taken Chub by fly-fishing, weighing three pounds and upwards. The Chub also takes bait readily, but is a very timid fish; and if once disturbed or frightened, will not bite again for some time. It is considered a coarse fish, but those of large size, eaten fresh, are very palatable. Mr. Yarrell says, that broiling Chub with the scales on, is the best mode of preparing it for table.

Species 6. *Leuciscus Atronsus*—The brook Minnow.

This very little fish is found in almost every brook in great numbers. It is usually about an inch and a half in length, and has three bands on its sides, running longitudinally; the lower a broad black band, then a golden yellow band somewhat narrower, and above that, a narrow dark band; when the fish is swimming, these three bands give it a pleasing appearance. It is only caught as bait for larger fish, especially for large Trout, which prey upon it greedily.

GENUS 3. *FUNDULUS*.

Species 1. *Fundulus fasciatus*—The striped Killifish.

In all the salt water Creeks and Bays of New Brunswick and Nova Scotia, this fish abounds. In length, it is from 1 to 3 inches, the sides of a brassy yellow tinged with green. It presents much variety in its markings, having from twelve to eighteen blackish bars, often obscure, and two to five longitudinal stripes.

Its popular name is derived from its abundance in creeks and estuaries, which the Dutch settlers at New York termed "Kills." It is also known by its Indian name of "Mummachog," corrupted by the English settlers on the Gulf Shore of New Brunswick where it abounds, to "Mammychub."

It is only taken as bait for other fishes. Some of these fish which were caught in the harbour of Shediac in a landing net,

were observed to be remarkably tenacious of life, and to live a long time out of the water after being hung up in the net.

FAMILY 2. SILURIDÆ.

GENUS 1. PIMELODUS.

Species 1. *Pimeiodus Catus*—The common Cat-fish.

This unsightly fish is found in all those ponds and streams where the yellow and white Perch are taken, and is sometimes called the "Horned Pout;" its length is from 6 to 10 inches. The Cat-fish is not eaten in New Brunswick, but in Maine and Massachusetts, it is highly esteemed as an article of food, and by many preferred to every other species of fresh water fishes, except Trout; it is usually fried, the skin being first removed.

FAMILY 3. SALMONIDÆ.

GENUS 1. SALMO.

Species 1. *Salmo Fontinalis*—The brook Trout.

Nearly every lake and stream in New Brunswick and Nova Scotia, is furnished with a greater or less number of this species of the Salmon family. It is taken of all sizes, from 6 to 20 inches, and is so well known, as scarcely to need a description. Its principal characteristics are—the vermilion dots and larger yellow spots in the vicinity of the lateral line, and the tri-colored fins, these being blackish on their edges, broadly bordered with white, and the rest scarlet.

The brook Trout is a migratory fish; when in its power, it invariably descends to the sea, and returns to perpetuate its species, by depositing its spawn in the clearest, coolest, and most limpid waters it can find. The opinion of Mr. Herbert, ("Frank Forrester") that there is but one distinct species of the brook Trout in North America, cannot be disputed. During the last thirty years, the writer has caught many thousands of these Trout, in numerous rivers, lakes, streams and estuaries, in the lower Provinces and in Maine, and can safely say, after close and attentive examination, that he has never seen but one species of the brook Trout, whatever naturalists may say to the contrary.

Various causes have been assigned for the great variety in the color of the brook Trout. One great cause is the differ-

ence of food ; such as live upon fresh water shrimps and other crustacea, are the brightest ; those which feed upon May-flies and other common aquatic insects, are the next ; and those which feed upon worms are the dullest and darkest of all.

The color and brilliancy of the water has also a very material effect upon the colour and appearance of *Salmo fontinalis*. Professor Agassiz has made some very curious experiments with respect to the colors of fishes, especially the Salmonidæ ; and he has ascertained beyond a doubt, not only that Trout of different neighbouring waters are affected by the color and quality of the water, but that Trout of the same river vary in color, accordingly as they haunt the shady or sunny side of the stream.

The fish of streams rushing rapidly over pebbly beds, are superior both in appearance and quality to those of ponds, or semi-stagnant brooks. But this may arise not so much from any particular components of the waters themselves, as from the fact, that rapidly running and falling water, is more highly aerated, the atmosphere being more freely intermingled with it, and therefore more conducive to the health and condition of all that inhabit it.

The Brook Trout of America, says Mr. Herbert, is one of the most beautiful creatures, in form, color, and motion, that can be imagined. There is no Sportsman actuated by the true animus of the pursuit, who would not prefer basketing a few brace of good Trout, to taking a cartload of the coarser and less game denizens of the water. His wariness, his timidity, his extreme cunning, the impossibility of taking him in clear and much fished waters, except with the slenderest and most delicate tackle—his boldness and vigour after being hooked, and his excellence on the table, place him, without dispute, next to the Salmon alone, as the first of fresh water fishes. The pursuit of him leads into the loveliest scenery of the land ; and the season at which he is fished for, is the most delightful portion of the year.

The Brook Trout rarely exceeds three pounds in weight ; and no well-authenticated case is on record, of one of the species having reached the weight of six pounds, in these Lower Provinces.

Species 2. *Salmo Ferox*—The Great Grey Trout.

This fish is found in all the large Lakes of New Brunswick, and in very many of those in Maine ; it is called by the Lumberers the "Togue ;" the Indians designate it by a name equivalent to "Fresh Water Cod."

In Lake Temiscouata, this fish has been taken of the weight of 21lbs. ; it is there called the "Tuladi." It is often taken of the weight of 12lbs. and upwards, in the Cheputnecticook Lakes, at the head of the eastern branch of the St. Croix. One sporting friend informs the writer, that he caught two of these fish on the St. Croix Grand Lake, one of which weighed 8lbs., and the other 13lbs. ; but that he saw one, taken by a night line, which weighed 25lbs. Another sporting friend, a resident of New York, informs the writer that he has visited the Lakes on the western branch of the St. Croix, where he caught several of the "Togue," weighing from 4lbs. upwards. The largest he caught measured 29 inches in length, but weighed 8lbs. only, not being in good condition.

It has been found of late years, that this species of fish exists in considerable numbers in Loch Lomond, 12 miles from the City of Saint John ; and they have in consequence, been sought after by sportsmen, who take them from a boat, by trolling over the deepest portions of the Loch.

A specimen of this fish, taken in Loch Lomond in 1848, was sent to the writer by Charles Johnston, Esquire, High Sheriff of Saint John, which was 24 inches in length, and weighed 7½lbs. On a careful examination and dissection of this fish, it was found to correspond exactly with the fish described by Mr. Yarrell as *Salmo ferox*, the great Grey Trout of Loch Awe.

In Scotland, this fish is taken from a boat rowed gently through the water ; the bait, a small fish guarded by several good sized hooks. They are extremely voracious, and having seized the bait, will allow themselves to be dragged by the teeth for forty or fifty yards, and when accidentally freed, will again immediately seize it. The young fish up to 3 lbs. weight rise freely at the usual Trout-flies ; the writer has often taken them up to that weight by fly-fishing, but never larger.

When in perfect season and full grown, it is a handsome fish, though the head is too large and long to be in accordance with perfect ideas of symmetry in a Trout. The colors are deep purplish brown on the upper parts, changing into reddish gray, and thence into fine orange yellow on the breast and belly. The body is covered with markings of different sizes, varying in number in different individuals. Each spot is surrounded by a pale ring which sometimes assumes a reddish hue ; the spots become more distant from each other as they descend below the lateral line, and the lower parts of the fish are spotless. The fins are of a rich yellowish green color,

darker towards their extremities. The tail is remarkable for its breadth and consequent power.

The flavour of this fish is coarse and indifferent ; the flesh is of an orange yellow, not the rich salmon color of the common Trout in good condition. The stomach is very capacious, and generally found gorged with fish ; it is very voracious, and well deserves the name of *Salmo ferox*.

Species 3. *Salmo Trutta*—The Salmon Trout, or White Sea Trout.

This beautiful Trout abounds in the Gulf of St. Lawrence ; it is found on the northern shores of New Brunswick, and in the estuaries of those rivers of New Brunswick and Nova Scotia which flow into the Gulf, early in June—it is caught in nets at the Magdalen Islands in summer, and salted for export. Many sportsmen resort annually to River Philip in Nova Scotia, during the month of June, to fish for these Sea Trout, which enter the estuary of the River at that season. No specimen of this fish has yet been seen in the Bay of Fundy, which it is supposed not to frequent.

The flesh of the Salmon Trout is of a brilliant pink color, and most excellent ; its exceeding fatness early in the season, when it first enters the mixed water of the estuaries, is such, that they that it can be preserved fresh but a very short time.

The body of the fish is rather deep for its length ; the lateral line is very nearly straight, passing along the middle of the body, the scales adhering closely. The upper part of the head and body, a rich sea-green color ; the lower part of the sides and belly, a brilliant silvery white. The fins white, except the dorsal which is nearly the color of the back.

Sir William Jardine in speaking of this fish, accurately describes its habits, as observed in New Brunswick. He says, "In approaching the entrance of rivers, or in seeking out as it were some one they preferred, shoals of these fish may be seen coasting the bays and harbours, leaping and sporting in great numbers, from about one pound to three or four pounds in weight ; and in some of the smaller bays, the shoal could be traced several times circling it, and apparently feeding."

Mr. H. Robinson Storer on his visit to Labrador in 1849, met with a single specimen of the Salmon Trout of the Gulf, at Red Bay in Labrador, and not being acquainted with the fish, designated it *Salmo immaculatus*. The scientific description, he gives is accurately that of the *Salmo trutta marina*,

and is as follows:—"Color. Silvery on sides and abdomen; darker on back; no spots." *Description.* "Length of head about one-sixth length of body; depth of head, two-thirds its length; greatest depth of body, directly in front of dorsal fin, equal to length of head. Upper jaw the longer. Jaws with numerous sharp incurved teeth. Eyes laterally elongated; their diameter one-third the distance between them. Opercles rounded posteriorly; lower portion of operculum naked, marked with concentric striæ; preopercle larger than in the *fontinalis*. Scales larger than those of the *fontinalis*. Lateral line commences back of superior angle of opercle, and, assuming the curve of the body, is lost at the commencement of the caudal rays. The first dorsal fin commences just anterior to median line; is nearly quadrangular. Adipose fin situated at a distance back of the first dorsal, little less than one-half the length of the fish. Pectorals just beneath posterior angle of operculum; their length three-fifths that of the head. Ventrals just beneath posterior portion of first dorsal; the plates at their base very large. The anal is situated at a distance back of the ventrals just equal to length of head, and terminates directly beneath the adipose fin; of the form of first dorsal. Caudal deeply forked; its length equal to greater depth of body. Dorsal 9. Pectorals 13. Ventrals 9. Anal 11. Caudal 30. Length 13½ inches."

To the epicure, a fresh caught Salmon Trout of the Gulf of Saint Lawrence, especially early in the season, will always afford a rich treat. The sportsman will find it a thoroughly game fish, rising well at a brilliant fly of scarlet ibis and gold, and affording sport second only to Salmon fishing. The writer has caught this fish with the scarlet ibis fly in the break of the surf at the entrance to St. Peter's Bay, on the north side of Prince Edward Island, of the weight of 5 lbs.; the largest in the Gulf rarely exceed the weight of 7 lbs., and those are taken at the Magdalen Islands.

Species 4. *Salmo Salar*—The Salmon.

The noble Salmon which honest Izaak Walton justly calls "the king of fresh water fish," is so well known in the North American Colonies as to need no description.

As in Europe, so in America, it is agreed that there is but one species—*Salmo Salar*—THE Salmon. And so also is it agreed, that the Salmon of Europe and that of America, are precisely similar; the same fish identically.

The Salmon enters the rivers of Nova Scotia during the latter part of April. Those rivers of New Brunswick which fall into the Bay of Fundy, the Salmon enters at the latter part of May; while the Salmon does not enter the rivers which fall into the Gulf of St. Lawrence until the month of June. The female Salmon first enters the rivers; the male fish follows, about a month later than the female; and lastly, comes the Grilse, or young Salmon, which continues to ascend the rivers during July and August.

Salmon swim with great rapidity, shoot up the most oblique and glancing rapids with the velocity of an arrow, and frequently leap falls 10 and 12 feet in height. It is believed, that the utmost limit of perpendicular height which a Salmon can attain in leaping, is 14 feet; but their perseverance is remarkable, for although they may fail time after time, yet after remaining quiescent for a few moments to recruit their strength, they renew their efforts, and generally succeed; but it is said they sometimes kill themselves by the violence of those efforts.

In New Brunswick, Salmon deposit their spawn in September and October, perhaps even later; and they return to the sea before the rivers become ice-bound in December. Before entering the rivers, they live a while in the brackish water of the tide-ways, as they do also when they descend to the sea, to render the change from one to the other less abrupt, and to rid themselves of certain parasitical animals which attach to them, when they remain long either in fresh water, or in salt, as the case may be.

The spawn is not deposited until the water is greatly below its summer temperature. Professor Agassiz stated personally to the writer, that 42° of Fahrenheit's thermometer, or 10° above the freezing point, was the temperature at which Salmon usually cast their ova. It is absolutely necessary, that the water should be aerated, or highly supplied with oxygen; hence the Salmon resort to shallow, pure water, and swiftly running streams, the rapidity and frequent falls in which, impart purity and vitality, by mingling their waters with the atmosphere.

A series of interesting and carefully conducted experiments in Great Britain, have within a few years, led to a much more accurate knowledge of the habits of the Salmon, than was before possessed, and corrected many erroneous impressions. It has been found, that the eggs of the Salmon are hatched in 114 days, when the temperature of the water is at

36° —in 101 days when it is at 43° —and in 90 days when it is at 45°. At the end of two months, the young fish attains the length of an inch and a quarter; at the age of six months, he has grown to the length of three inches and a quarter.

In this state the young Salmon Fry are called Parrs, and are readily known by their silvery scales, and by their having perpendicular bars, of a dusky gray color crossing the lateral line. In this state, the Fry remain a whole year in the fresh water, not going down to the sea until the second spring after being hatched. As they readily take both fly and bait, great numbers are often destroyed in mere wantonness; and it is desirable all Colonists should know, that the destruction of these fry, (which from their dark cross-bars and small red spots like the young of Trout are supposed not to be the young of Salmon) will inevitably destroy the run of Salmon in any river, and tend with other causes to the extirpation of this magnificent fish. When Parrs are taken in angling, they should, if uninjured, be immediately returned to the stream, and every true sportsman will carefully do so.

The growth of the Parr is very slow, but when it has attained the length of 7 inches, a complete change takes place in its color. The dark cross-bars disappear, as also the small red spots, and the fish assumes a brilliant silvery appearance. It then bears the outward semblance of what it really is, a young Salmon, and is termed a Salmon-Smolt.

As soon as the change has taken place, the Smolt evinces the most anxious desire to visit the sea; and it is alleged, that if it is prevented doing so, by any insuperable obstacle, it will throw itself on the bank and perish. Up to this time the growth of the young Salmon has been very slow, but on reaching the sea, it is exceedingly rapid; a Smolt of six or seven ounces in weight, after two or three months absence in the sea, will return as Grilse of four or five pounds weight; this has been proved beyond all dispute. Smolts have been taken by hundreds, marked with numbered tickets of zinc attached to their dorsal fins, then set at liberty, and recaptured in the autumn of the same year, as Grilse, varying from two to eight pounds in weight. These have been released with the labels unremoved, and have been seen in the Spring of the third year returning to the sea with weight not increased; in the succeeding autumn they have been once more taken as full grown fish, from 16 to 25 pounds weight.

The microscopical researches of Dr. Knox have shown, that the food of the Salmon, previous to its quitting the salt

water, consists of the eggs of *echinodermata* and *crustacea*, this rich aliment giving the color and flavour for which its flesh is so highly prized. This is sustained by the observations of Professor Agassiz, who states, that the most beautiful Salmon Trout are found in waters which abound in *crustacea*, direct experiments having shown to his satisfaction, that the intensity of the red color of their flesh depends upon the quantity of *gammarinae* which they had devoured.

GENUS 2. OSMERUS.

Species 1. *Osmerus Viridescens*—The American Smelt.

This beautiful and savory fish abounds in New Brunswick and Nova Scotia; it is sometimes taken a foot in length, but its average size is about 5 or 6 inches.

Very soon after the rivers are freed in spring from their icy fetters, the Smelts rush in to the smaller streams in countless thousands, and are then taken with the most wasteful profusion. The popular name of Smelt is given to this fish from its peculiar smell, which resembles that of cucumbers; this is strongest when the fish is first taken, but it may be perceived by raising the gill-covers after the fish has been some time out of the water.

On the Gulf Coast of New Brunswick, large quantities of the Smelt are used every season as manure.

GENUS 3. MALLOTUS.

Species 1. *Mallotus Villosus*—The Capelin.

This, the smallest species of the Salmon family, inhabits the northern seas only, never ranging further south than the shores of New Brunswick. It is very nearly allied to the genus *Osmerus*, from which however it differs in the smallness of its teeth, and in certain other particulars. Some naturalists have called this fish *Salmo groenlandicus*, while others have classed it among the Herring family. Cuvier has decided that it belongs to the Salmonidae, to which it seems now settled it properly appertains.

The Capelin is from 4 to 7 inches in length, the under jaw longer than the upper; the back and top of the head a dull leek green, with bright green and yellow reflections when moved in the light; sides and belly covered with delicate and very bright silvery scales, which are dotted on the margins

with black specks; the back covered with small smooth grains like tangreen.

The manner in which the Capelin deposits its spawn is one of the most curious circumstances attending its natural history. The male fishes are somewhat larger than the female, and are provided with a sort of ridge projecting on each side of their back bones, similar to the eaves of a house, in which the female Capelin is deficient. The latter, on approaching the beach to deposit its spawn, is attended by two male fishes, who huddle the female between them, until the whole body is concealed under the projecting ridges, and her head only is visible. In this position, all three run together with great swiftness upon the sands, when the males, by some inherent imperceptible power, compress the body of the female between their own, so as to expel the spawn from an orifice near the tail. Having thus accomplished its delivery, the three Capelins separate, and paddling with their whole force through the shallow water of the beach, generally succeed in regaining once more the bosom of the deep; although many fail to do so, and are cast upon the shore, especially if the surf be at all heavy.

Like the common Smelt, the Capelin possesses the cucumber smell; but it differs from the Smelt in never entering fresh water streams.

As an article of bait for Cod, and other fish of that class, the Capelin is a fish of much importance; wherever abundant, the Cod fishing is excellent. It has been found as far north in the Arctic regions as man has yet penetrated; and it forms so important an article of food in Greenland, that it has been termed the daily bread of the natives. In Newfoundland, it is dried in large quantities, and exported to London, where it is sold principally in the oyster shops.

GENUS 4. COREGONUS.

Species 1. *Coregonus Albus*—The White Fish.

This fish, the celebrated *attikaumeg* of the Great Northern Lakes, so frequently described by Arctic voyagers as the most delicious of all purely fresh water fishes, is found in considerable numbers in Lake Temiscouata, where many are taken every autumn by the French Canadians, who come over from the Saint Lawrence to fish for them, and call them *Poisson Pointu*; the English Lumbermen call them "gizzard-fish." They are taken occasionally along the Madawaska River;

and
Fal
earl
abo
for
S
whe
take
by
cau
smal
call
betw
noti
alth
T
a p
Ten
It is
Lak
sub
fur
othe
in th
been
of th
cinit
mea
pou
A
Gra
sible
Fall
ther
V
fres
fect
Sain
D
Ten
that
the
spaw
depo

and the writer has caught them with rod and line below the Falls of that river, at its confluence with the Saint John, in the early part of summer. * At these Falls the inhabitants take about forty barrels every autumn, which are cured in pickle for winter use.

Some years since, this fish was abundant in the Grand Lake, where the writer in the month of May, saw great numbers taken out of gill nets set for Gaspereau, and thrown away by the fishermen as worthless. At the same time the writer caught a number of them, with rod and line, in one of those small pieces of water connected with the Grand Lake, usually called "key-holes." It is occasionally taken in the St. John, between the Jemseg and Fredericton; but has never been noticed below the Jemseg, and is supposed not to visit the sea, although it has full opportunity.

The fish of this species seen by the writer have not exceeded a pound and a half in weight; but they are taken in Lake Temiscouata of the weight of three pounds, and even more. It is an inhabitant of all the interior Lakes of America, from Lake Erie to the Arctic Sea; several Indian tribes mainly subsist upon it, and it forms the principal food at many of the fur posts, for eight or nine months of the year, the supply of other articles of diet being scanty and casual. Its usual weight in the northern regions is from two to three pounds, but it has been taken in the clear, deep, and cold waters of Lake Huron, of the weight of thirteen pounds. The largest seen in the vicinity of Hudson's Bay, weighed between four and five pounds, measured 20 inches in length, and 4 in depth. One of seven pounds weight caught in Lake Huron was 27 inches long.

As the White Fish has been more scarce of late years in the Grand Lake, and lower part of the Saint John, it is quite possible that those formerly found, were swept over the Grand Falls by some extraordinary flood, and once over the Falls, there was no possibility of return.

Very recently, the writer had an opportunity of seeing some fresh specimens of the White Fish of Lake Erie, and was perfectly satisfied of their identity with the "gizzard-fish" of the Saint John and Lake Temiscouata.

During the summer the White Fish is not seen in Lake Temiscouata, and it is then supposed to retire to the depths of that unusually deep and cold lake. In October, it draws near the shores, and ascends the Tuladi River for the purpose of spawning. It ascends the river during the night, and having deposited its spawn, returns as quickly as possible to the lake.

It is when this fish draws near the shore, prior to spawning, that the fishery is carried on, chiefly at a little bay in Lake Temiscouata, into which the Tuladi discharges its waters. At the same time, the Great Grey Trout (*Salmo ferox*) follows the White Fish to the shore, and preys upon it. While the nets are set for White Fish, the fishers, with torch and spear, attack and capture the *Salmo ferox*, frequently of large size; and hence this latter fish has acquired the name of "Tuladi," from the river to which it is attracted by its favorite prey.

The White Fish feeds largely on fresh water shell-fish and shelly mollusca; its stomach thereby gains an extraordinary thickness, and resembles the gizzard of a fowl, hence its popular name of "gizzard fish." The stomach, when cleaned and boiled, is a favorite morsel with the Canadian voyageurs.

FAMILY 4. CLUPEIDÆ.

GENUS 1. CLUPEA.

Species 1. *Clupea Elongata*—The common American Herring.

As the Herring of North America has been found to differ greatly from the Herring of Europe, (*Clupea harengus*), the naturalists of the United States have distinguished it by the name of *Clupea elongata*. Fishermen designate it by the name of "blue back," and sometimes they call it the "English Herring;" very often, they add the name of the locality where it is taken, to distinguish particular varieties.

The statements made by the older naturalists, as to vast armies of Herrings coming down annually from the Arctic Ocean, and making the circuit of the seas, is now supposed to be wholly imaginary. It is generally believed, at present, that the Herring fattens in the depths of the Ocean, and approaches the shore in shoals, merely for the purpose of depositing its spawn. In this opinion, Mr. Yarrell fully coincides, and there can scarcely be a better authority. It is quite certain, that the common Herring is caught on the shores of New Brunswick during every month of the year, which quite precludes the idea of its being a migratory fish.

It is found everywhere on the coast of Nova Scotia; and from the information obtained by the writer during his official inspection of the Fisheries, it appears certain, that there are several varieties of the common Herring, some of which spawn early in the spring, and others in August and September; also, that the quality varies very considerably in different localities.

The habits, haunts and seasons of this fish are only beginning to be understood, and accurate observations on these would be highly useful to all who are interested in the Herring fishery.

Species 2. *Clupea Minima*—The Britt.

Dr. Storer in his Report on the Fishes of Massachusetts, says, that this pretty little specimen of Herring, is found, at certain seasons, in incredible numbers on the Coast of that State, and serves as food for several other species of fish. It varies in length from one to four inches; the back, nearly black; the upper parts of the sides, dark green; sides silvery, with roseate and golden reflections.

The fishermen of the Bay of Fundy speak of this fish as having been formerly very abundant, but now seen only occasionally. As the writer has not been fortunate enough to see a specimen, he cannot describe it from his own observation.

GENUS 2. *ALOSA*—THE SHAD.

Species 1. *Alosa Sapidissima*—The American Shad.

The Shad of America, like the common Herring, having been found to differ materially from the Shad of Europe, has received a distinct name; the designation given by Wilson, and adopted by Dr. Storer, *alosa sapidissima*, is here followed.

Unlike most fish which frequent the northern seas, this species comes from the south to deposit its spawn. Dr. DeKay in his Report on the Fishes of New York says, he infers this to be the fact, from the order of its appearance along the American Coast. At Charleston, Shad appears in January; at Norfolk, in February; on the coast of New York, at the latter end of March, or beginning of April; at Boston, in the latter part of April. In the Bay of Fundy, they seldom appear until the middle of May. The first fish which arrive ascend the river St. John to spawn; it is believed, that they remain in the fresh water no longer than is necessary to deposit their ova, and then proceed up the Bay of Fundy to their favourite feeding grounds, there to fatten upon the Shrimp and "Shad-worm," until they attain that degree of excellence which renders them so much sought after. The other Shad which are found in the autumn upon the same feeding grounds, and in which no roe has yet been seen, are probably fish that have not attained a sufficient age for spawning, as those which ascend the river for that purpose, are of large size and apparently old fish.

Very few Shad are seen on the Atlantic Coast of Nova Scotia; in the Gulf of Saint Lawrence, it is comparatively rare; the few that are taken there, are very inferior, and also much smaller, than those of the Bay of Fundy.

Species 2. *Alosa Tyrannus*—The Gaspereau or American Alewife.

The Alewife appears in great quantities in the Chesapeake, in March; at New York, it appears with the Shad. The earliest fish appear in the harbour of Saint John, in April, but the main body does not enter the river before the 10th of May. It would therefore appear, that the Alewife also comes from the south, like the common Shad, to deposit its spawn in northern rivers.

The usual length of this species of Shad, which is best known in New Brunswick and Nova Scotia by the name of Gaspereau, is from 8 to 10 inches; the back a blue green approaching to purple; sides silvery. The head dark green above, and the tip of the lower jaw of the same color; opercles yellow.

In the Bay of Fundy, this fish is abundant; in the Gulf of St. Lawrence, it is more rare, and of much smaller size; in the Bay of Chaleur, it has not yet been noticed, and the Bay of Miramichi would seem to be its extreme northern limit.

The catch of Gaspereau in the harbour of St. John, varies from 12,000 to 16,000 barrels each season, and sometimes reaches 20,000 barrels.

Species 3. *Alosa Menhaden*—The Mossbonker.

This fish is known by a variety of popular names, among which are "Bony-fish"—"Hardhead"—"Pauhagen"—and "Menhaden." It is seldom eaten, being dry, without flavour, and full of bones. On the coast of the United States, it is used as bait for Cod, and also extensively as manure, for renovating old grass fields, but not without injury to the health of those who reside in the vicinity. The Mossbonker is sometimes caught in the weirs, within the harbour of St. John, in considerable numbers; it has occasionally been sold to the ignorant as fall Shad, to which it bears some resemblance.

Species 4. *Alosa Mattowaca*—The Autumnal Herring.

Dr. DeKay says the Autumnal, or Fall Herring, or "Shad Herring," is a common fish at New York; he has adopted the designation of that excellent naturalist Dr. Mitchill, who

hav
con
wak
A
ring
corr
De
clas
exc
codi
A
like
keel

Order

This

S

T
foun
over
take
the
Gra
atta
mor
a gr
with
whi
T

far
that
a nu
"Vi
and

having first observed this fish at Long Island, near New York, conferred upon it the aboriginal name of the Island—*Matto-waka*.

A careful examination has been made of the "Quoddy Herring," taken near Campo Bello, and it has been found to correspond so exactly with the description given by Dr. DeKay, that the writer, until better informed, ventures to class it as a member of the Shad family. In flavour and excellence, it ranks only second to the best Shad of the Petitcodiac.

All the members of the Shad family are serrated, or toothed like a saw, on the belly, which is carinate, or shaped like a keel.

Order 3. Fishes with ventrals under the pectorals, and the pelvis suspended to the shoulder bones.

FAMILY 1. GADIDÆ.

This family is one of the most important to man in the whole class of fishes.

GENUS 1. MORRHUA—THE COD.

Species 1. *Morrhua Vulgaris*—The common Cod.

2. *Morrhua Americana*—The American Cod.

The first of these two species, is the common Cod of Newfoundland, well known as an article of food, the wide world over. Among fishermen, it is designated the Bank Cod; it is taken in deep water off the coast of Nova Scotia, and also in the entrance to the Bay of Fundy, between Brier Island and Grand Manan. It is always a thick, well fed fish, and often attains a great weight, sometimes 70 or 80 pounds, and even more. The color varies much in individuals, but is generally a greenish brown, fading into ash color when the fish is dead, with many reddish yellow spots; the belly, silvery opaque white, the fins pale green, the lateral line, dead white.

This fish is taken from the coast of Maine northwardly, as far as man has penetrated. Captain James C. Ross states that on the West Coast of Greenland, in latitude $66^{\circ} 30'$ north, a number of very fine Codfish were caught by the crew of the "Victory," on a bank consisting of small stones, coarse sand, and broken shells, with 18 to 30 fathoms over it. At the

Peninsula of Boothia, Captain Ross purchased Cod from the Esquimaux, who caught them through holes in the ice.

The Commissioners of British Fisheries, in their Report to Parliament for the year 1846, state that two vessels in that year, proceeded for the first time, from the Shetland Islands to Davis' Straits, for the prosecution of the Cod fishery, and were very successful, the number of fish taken having been 29,403 Cod. The fish were caught in the ordinary manner, with hand lines and bait. So plenty were they in some places not far from the shore, that they were caught with *raspers*, or by letting down and drawing up a line with several bare hooks fixed thereon, tied back to back. The fish were however, chiefly caught upon a bank, with a depth of water from 15 to 40 fathoms, in latitudes 66° and 67° degrees north, and 55° west longitude, from 30 to 40 miles off the land. The Cod-fish were in so great abundance, that nearly 2000 fish were caught by the 20 men on board, in the course of 24 hours; the whole quantity was fished in 28 days, being an average daily catch of 1000 fish. Some of the fish when taken out of the sea, weighed about 80 lbs., and when dressed, about 60 lbs. They were of excellent quality, and their livers were so rich, that they were preserved with the firm conviction they would produce six tons of oil. In 1847, another successful attempt was made by a vessel from Lerwick, to prosecute the Cod fishing at Davis' Straits. The vessel reached the fishing ground on the 23rd of June, and continued to fish until the 16th of August, during which time 42,143 Cod were caught. This was considerably above the take of the previous year, and but for stormy weather, the voyage would have been even more successful.

The second species named above, the American Cod, is slightly, though permanently distinct from the common or Bank Cod. The back is of a light olive green, (becoming pale ash in the dead specimens) covered with numerous reddish or yellowish spots, to a short distance below the lateral line, which is an opaque white, throughout its whole extent.

There are several varieties of the American Cod, the most usual of which are the *Arenosus* or shoal Cod of Dr. Mitchell, with a greenish brown hue, and inconspicuous spots; and the *rupestris*, or rock Cod of the same author, of a smaller size, with a reddish hue, occasionally a bright red, very numerous on the whole coast of Nova Scotia, and in the vicinity of Grand Manan. Fine specimens of this variety may be seen in the fish-market of Halifax during the season; their quality is admirable.

T
then
Am
T
disc
crus
posit
rare
and
A
often
down

T
fish
north
Brun
even
In
come
henc
The
dual
and
is a
grea

T
of M
above
black
glea
body
head
short
T
sligh
horn
and

The southern limit of the American Cod is New York ; thence it ranges northwardly, along the whole Coast of North America.

The Cod is an exceedingly voracious fish. It attacks indiscriminately every thing in its way, devouring smaller fish, crustacea, and marine shell fish. Its stomach is the great repository from which naturalists have lately obtained so many rare and undescribed species of shells, inhabiting deep water, and which are unattainable by any other means.

A fisherman at Brier Island assured the writer, that he had often seen the Cod in shoal water, with their heads straight down and tails up, working mussels and clams off the bottom.

Species 3. *Morrhua Pruinosa*—The Tomcod.

The average length of the Tomcod is about 6 inches. This fish also ranges the whole American Coast from New York northwardly ; it is taken on the shores of Nova Scotia and New Brunswick throughout the year. It frequently ascends rivers even into fresh water.

In the early part of winter after the first severe frost, it becomes very abundant in the mixed waters of estuaries, and hence the name of "frost fish" which is frequently applied to it. The colors of the Tomcod vary greatly, scarcely any two individuals being exactly alike ; five varieties have been noticed, and it is thought the number may be still further increased. It is a savory fish, and may be taken in large quantities with the greatest ease.

Species 4. *Morrhua Aglefinus*—The Haddock.

This fish is found every where on the American Coast north of New York. Its distinctive coloring is blackish brown above, and silvery grey below the lateral line, which is jet black. The back and sides are varied by purplish and gold gleams, which disappear very soon after the fish is dead. The body of the fish is stout forward, and tapering backward, the head large and arched ; the eyes large ; the lower jaw the shortest.

This is an exceedingly fine fish when eaten fresh, or when slightly salted and smoked, in the same manner as the Findhorn Haddocks of Scotland. It is too thin a fish for salting and drying like Cod, and has only half the commercial value.

GENUS 2. PHYCIS.

Species 1. *Phycis Americanus*—The American Hake.

The geographical range of this fish appears to be from Cape Cod, northwardly. It is taken largely on muddy bottoms, both in the Bay of Fundy and in the Gulf of Saint Lawrence, chiefly by fishing during the night, at which time it feeds on the smaller crustacea, with which its stomach is generally found to be filled. In the Gulf of Saint Lawrence, and Bay of Chaleur, it is invariably called "Ling," under which name, when salted and dried, it is exported by the Jersey merchants, who have fishing establishments there, and who probably introduced the name.

This fish is frequently taken of the length of three feet, especially in the Gulf; it is of a reddish brown colour, with slight metallic reflections on the cheeks, and a dark patch beneath the orbits; abdomen lighter, mixed with gray. It has one barbule under the chin; the ventral fins are simple rays, divided or forked, one of the divisions longer than the other. Head pointed, flattened above; snout prominent; the upper jaw projects beyond the lower; both jaws are arched with several rows of sharp, incurved teeth, which render necessary an armature of six or eight inches above the hook, as this fish readily bites off a common cod-line.

GENUS 3. MERLUCIUS.

Species 1. *Merlucius Albidus*—The Silver Hake.

This fish has the same geographical range as the American Hake last mentioned. It is abundant around the Island of Grand Manan, and is known as the Silver Hake; in the market of Saint John, it is sold under the name of "Whiting."

When quite fresh, it is an exceedingly sweet and palatable fish, but it soon becomes soft and tasteless. As it is never salted, the fishermen attach no value to it whatever. At Grand Manan, the Silver Hake, of small size, is often taken in the Herring nets, in which it becomes entangled while pursuing its prey. The writer observed the fishermen at Grand Manan throwing away this fine fish by dozens, when clearing their Herring nets. It is a most voracious fish, as implied by its name, *merlucius*—the Sea Pike.

The head and upper part of the body are of a dull lead colour; the sides and abdomen white. The eyes are very large, the pupils black, the irides silvery. There is a sensible

depr
lower
serie
the f
the i
Th
habit
great
luciu
consi
deep
confe

Speci
Ac
fishes
fish,
limit,
and w
of Sp
caugh
during

Th
gle sp
had ta
lack a
of Cu
Th
its bes
fisher

Th
line,
white
with g
to the
black

Fro
quodd
taken
either
struct
the sa

depression on the top of the head, between the eyes. The lower jaw is the longest ; both jaws are armed with ill-defined series of very sharp recurved teeth, some of which resemble the fangs of serpents ; these long fang-like teeth are distant, the intervals being filled up with smaller teeth.

This fish is from one to two feet in length, and is of roving habits, following the shoals of Herrings, of which it devours great quantities. It has been generally confounded with *merlucius vulgaris*, the Common Hake of Europe, but Dr. DeKay considers it distinct by its radial formula, long palatine teeth, deeply concave caudal, and other particulars ; he therefore confers upon the American species the name of *Albidus*.

GENUS 4. MERLANGUS.

Species 1. *Merlangus Carbonarius*—The Coal Fish or Pollack.

According to Dr. DeKay, this is one of the few oceanic fishes which range on both sides the Atlantic. It is a northern fish, and the coast of New York is assigned as its southern limit, on this side the Atlantic. It is found far to the north, and was the only fish met with by Lord Mulgrave on the shores of Spitzbergen ; the Fry, only 4 or 5 inches in length, were caught with the Trawl net on the west coast of Davis' Straits, during the first voyage of Captain Sir Edward Parry.

The writer has not seen in the Gulf of St. Lawrence a single specimen of this fish ; nor has he ever met a fisherman who had taken one within the Gulf. In the Bay of Fundy, the Pollack abounds almost every where, except in the muddy waters of Cumberland Bay, and the Basin of Mines.

The head and body of this fish are elegantly shaped ; from its beauty of form and quickness of motion, the Bay of Fundy fishermen often call it the "Sea Salmon."

The upper part of the head, and the back above the lateral line, are almost black ; between that line, (which is silvery white) the fish is much lighter in color, becoming greyish white with golden reflections on the sides and belly ; the head tapers to the snout ; the upper jaw rather the shortest ; the mouth black ; the teeth very small.

From almost every projecting point in the Bay of Passamaquoddy, where there is a run of tide, young Pollack may be taken during the summer, with rod and line very rapidly, either with bait or any gaudy artificial fly, even of rude construction. The most attractive is the scarlet ibis with gold, the same as used in the Gulf for white Sea Trout.

The season for spawning is early in spring; in the early part of summer, the fish is lank and almost worthless. It becomes in good condition in August, and improves as the season advances; it then prowls after prey in large companies. It swims at no great depth, and when attracted by bait, will keep near a boat or vessel until all are taken.

GENUS 5. BROSMIUS.

Species 1. *Brosmius Vulgaris*—The Torsk, Tusk, or Cusk.

This is a northern fish, and its southern limit on the North American Coast, is Massachusetts Bay; even in the Bay of Fundy it is not very abundant. It is taken in deep water while fishing for Cod, and is said to prefer a rocky bottom on which sea-weed grows. Its usual length is from 18 inches to 3 feet, which it rarely exceeds.

The color of the body is a uniform dark slate, the head rather darker than the body. The mouth large, the jaws filled with large, recurved teeth; the upper jaw is a very little longer than the lower; a single barbule under the chin. The dorsal fin begins well forward on the fish, and terminates just in front of the tail; the anal fin is continued to the tail and nearly joins it. The caudal fin is round, and like the dorsal and anal fins, is margined with blue and edged with white. This latter peculiarity renders the Torsk, or Cusk, easily distinguished among all other members of the Cod family.

Dr. Storer is of opinion, that the Torsk of America cannot be distinguished from the Torsk of Europe, although Le Sueur conceives there is a difference, and designates the American species *B. Flavescens*. In Europe this fish rarely appears below 60° or above 73° north latitude. It is plentiful on the coast of Norway, as far as Finmark, and also on the west and south coast of Iceland, but rare on its north and east coast.

The fish of this species taken in the Bay of Fundy, are usually caught in the latter part of winter or early spring. When eaten fresh, it is very fine, but rather tough; it is therefore generally preferred after being dried. It then swells much in boiling, and parts into very thick flakes. In Boston, this fish is considered a delicacy, and when dried, is by many thought preferable to Cod.

Spec

T

perm
nual
the i
near
bars,
this
in Fe

TI
feet.
head
The
band
and s
a mu
part
surfa

In
on a
pound
it is
north
the "
and b
the li
It is
these
he op
the m
a deg
soft in
The
of god
When
can be
fur-co
Thi
cealin
it fee
by nig

GENUS 6. LOTA.

Species 1. *Lota Maculosa*—The Spotted Burbot, or Fresh-water Cusk.

This is the only member of the Cod family which resides permanently in fresh water. Some hundreds are taken annually in the River St. John, by night-lines dropped through the ice, at the beginning of winter. Many are thus taken near Fredericton, but the best fishing ground is on the sand bars, a little above the mouth of the Oromocto river, where this fish resorts previous to its spawning, which takes place in February or March.

The length of the fresh-water Cusk, is from 18 inches to 2 feet. The body is compressed, and somewhat eel-shaped; the head broad, depressed; jaws nearly equal; the gape large. The teeth are in the jaws, small and recurved, distributed in bands. The color of the body is a yellowish brown, clouded and spotted with darker brown spots, and it is covered with a mucous secretion. The fins partake of the color of that part of the body from which they emanate, those of the lower surface being much the lightest.

In July 1841, the writer caught one of this species of fish on a night-line in lake Temiscouata, which weighed seven pounds. Dr. Richardson (*Fauna Boreali Americana*) says, it is common in every river and lake, from Canada to the northern extremity of this Continent. The Cree Indians call it the "Methy;" the Canadian voyageurs name it "La Loche," and by these two names it is known in the fur-countries. Within the limits of the United States, it is called the "Eel Pout." It is very voracious, feeding on smaller fish, and Cray-fish; these last abound in lake Temiscouata. Dr. Richardson says he opened several of these fish taken at Pine Island Lake, in the month of March, which were filled with Cray-fish to such a degree, that the form of their bodies was quite distorted, the soft integuments of their bellies admitting of great dilatation.

The flesh of the "Fresh-water Cusk," is white, firm, and of good flavour; the liver and roe are considered delicacies. When well bruised and mixed with a little flour, the roe can be baked into very good biscuits, which are used in the fur-countries as tea-bread.

This fish is not unlike the Eel in many of its habits, concealing itself under stones, waiting and watching for its prey; it feeds principally at night, and is therefore generally taken by night-lines.

FAMILY 2. PLEURONECTIDÆ—THE FAMILY OF FLOUNDERS,
POPULARLY CALLED FLAT-FISH.

The peculiarities of this family are thus described: "Body flat, compressed vertically. Upper surface dusky, and of various colors; beneath, white. Dorsal single, extending the whole length of the back. Both eyes placed on the same side of the head. No air-bladder, branchial rays, six."

With such peculiar characteristics, the members of this family are readily recognized everywhere. In some of the members, the eyes are placed on a different side from their usual situation, and these are termed, *reversed* individuals; more rarely it happens, that both sides are colored, when they are said to be *doubled*. As some confusion has arisen, as to whether a fish is right or left, *dextral* or *sinistral*, the following is the rule adopted. The fish is placed on its edge with the tail to the observer, and the dorsal fin uppermost; the fish is then said to be *dextral* or *sinistral*, according as the colored side is on the right, or left hand.

All the fishes of this family are very tenacious of life.

GENUS 1. HIPPOGLOSSUS.

Species 1. *Hippoglossus Vulgaris*—The Halibut.

This is a very large fish; it is found on the coast of North America, from Nantucket to Greenland; and is frequently taken of the weight of 200 lbs. Dr. Storer mentions one of these fish brought into Boston market, that weighed 420 lbs. after the head and bowels were removed; and another, that weighed upwards of 600 lbs., which was taken on a bank, sixty miles south-east of Portland, Maine.

The Halibut is very voracious; it swims near the ground, and devours other flat-fish, as well as shells and crustacea. In summer, it is caught in shallow water, and often quite near the shore; in winter it retires to deep water. The flesh is rather coarse and dry, but it is much esteemed by many; the fins and flaps are delicacies, if the fish is in good condition. When the fishermen of the Bay of Fundy, take a number of these fish at one time, they salt the flesh lightly, and then dry and smoke it for winter use.

GENUS 2. PLATESSA.

- Species 1. *Platessa plana*—The common Flounder.
 2. *Platessa pusilla*—The Sand-flounder, or small Dab.
 3. *Platessa limanda*—The Fleuk, or common Dab.

These several species of Flat-fish are found every where on the Coasts of New Brunswick and Nova Scotia; very likely, other species exists, and will be hereafter noticed.

The first, or common Flounder, is from 6 to 18 inches in length; the eyes and colored surface are on the right. The color is variable; some are greenish, others slate-colored, but generally, rusty brown prevails. In Boston, this fish is called the "winter Flounder," and its flesh is highly prized.

The next species, the sand Flounder or small Dab, is a little fish, from 4 to 6 inches in length, nearly of a uniform olive brown; the eyes and colored surface on the right; found in shallow and sandy bays and coves. It is very abundant during summer, on the sands to the eastward of the City of Saint John, and is taken at low-water by hundreds, in the shallow pools of the estuary of the Marsh Creek. The Shrimp-fishers on these sands, also take them in great numbers in their shrimp-nets.

The third species, the Fleuk or common Dab, as it is called in Scotland, also abounds. It is generally taken towards autumn, when it approaches the shores prior to spawning. Several of this species were taken by the writer in October 1850, in the upper part of the Bay of Fundy, near Parrsborough; it was found a very sweet and delicate fish, eaten fresh. It is readily distinguished from the common Flounder, by its more uniform and lighter brown color, its more curved lateral line, and the greater roughness of the scaly surface. The eyes and color are on the right side; it is from 8 to 12 inches in length.

Another small Flat-fish was observed by the writer, at Point Miscou, in August 1849, where it was taken in a smelt-seine, the Smelt being used there as bait for Cod. It had several of the characteristics of the European Plaice; but as it was evidently the young of a larger fish, no decided opinion could be formed.

Order 4. Apodal, without ventral fins.

FAMILY 1. ANGUILLIDÆ—THE EEL FAMILY.

GENUS 1. ANGUILLA—THE EEL.

Species 1. *Anguilla Vulgaris*—The common Eel.

The Eel inhabits both fresh and salt-water, and is taken in every situation in these Colonies which it can reach. Its color is greenish olive above, yellow beneath; this color extending along the base of the anal fin, nearly to the end of the tail. It is caught in a variety of ways; but taking the Eel with hook and line, is considered much too tedious and troublesome. In summer, it is caught in long round Indian baskets, called eel-pots; it is also taken by torch-light, with the spear. In winter it is taken through holes in the ice, by spearing it in the mud, where it then lies torpid. The places where this fishing takes place are generally well known, and are termed "Eel-grounds."

It is very voracious, feeding on aquatic insects, small fishes, and all dead animal substances that come in its way. The structure of its branchial pouches enables it to live out of water for a long time; and as it can move along the ground, it is not uncommon to find the Eel shifting its quarters from one creek or lake to another, by crawling through the grass.

The common Eel, when in good condition, is a very excellent, well-flavoured fish. It varies greatly in size, being taken from 6 inches to 2 feet or more in length.

Dr. DeKay says he has examined the "Silver Eel," so called, and considers it only a variety of the common Eel. Its general color is silvery gray, darker above, and a clear white belly shining like satin.

Species 2. *Anguilla Oceanica*—The Sea Eel.

Dr. DeKay gives this name to a Sea Eel found on the Coast of New York, which the writer has also noticed in the Gulf of Saint Lawrence. It is described as brownish on the back; pale on the sides; beneath, smutty white; fins tipped with blueish white, or pale blue. It was first observed in June, 1842, at Lennox Island in Richmond Bay, on the north side of Prince Edward Island. The Indians had there taken several with torch and spear, which were three feet in length. A specimen was also shown to the writer at Pokemouche, (north

of the Miramichi,) in October 1849, by a Micmac Indian, who had split, salted, and smoked it. In that state, without the head, it was about the size of an ordinary smoked Salmon, and fully as thick; it was taken in Pokemouche Gully, by torch-light, with a Basse spear.

The Micmacs say, that this Eel is exceedingly shy, and cannot be induced by any means to enter an eel-pot. Those seen by the writer were excessively fat, the flesh very white, and exceedingly well flavoured.

The Sea Eel, described by Dr. DeKay, is stated to be fifty inches in length, and weighing nine pounds. It is probably found along the whole North American Coast, north of New York.

GROUP II. CARTILAGINOUS FISHES.

Order 1. Fishes with free gills.

FAMILY 1. STURIONIDÆ—THE STURGEON FAMILY.

GENUS 1. ACCIPENSER.

Species 1. *Accipenser Oxyrinchus*—The Sharp-nosed Sturgeon.

This fish is taken in New Brunswick and Nova Scotia from 2 to 8 feet in length. The body is pentagonal; the skin rough; the head flattened above, and slightly depressed between the eyes. The whole upper portion of the head, bony; the head elongated, spatuliform, and covered with strong bony shields, roughened above and beneath. The upper part of the body is of a greyish brown color; inferior portion of the sides, silvery; beneath, white.

This fish ascends the River Saint John in considerable numbers, in May, and is then often taken in the Harbour of Saint John, of the length of six feet or more, in weirs, seines, and gaspereau nets, to which last it is very destructive. In the summer, it basks on the Oromocto Shoals, about 70 miles from the sea; during very hot days, some one of these monsters may be seen every few minutes flinging its whole length into

the air, apparently in mere wantonness, but probably to disengage itself from the Lamprey Eel, which fastens upon its belly and eats into the flesh. Instances have occurred of the Sturgeon having leaped into a canoe, in its efforts to disengage itself from several Lampreys that had fastened upon it at the same time.

This fish also basks on an extensive sandy shoal to the southward of Grand Point, in the Grand Lake, about 60 miles from the sea. The Milicete Indians, who formerly encamped in that vicinity, were accustomed to take Sturgeon on this shoal, after their own fashion. They used a harpoon of iron, with two barbs, both on the same side, the one about two inches above the other; this was attached to a wooden handle, or pole, of 10 or 12 feet in length. One Indian paddled the canoe in that still and noiseless manner so peculiar to the aborigines of North America, while another Indian stood in the bow, balancing the harpoon, and with it making signs to the other, as to the management and direction of the canoe. If a Sturgeon was struck which the Indian could not lift, the wooden handle was slipped from the harpoon, to which however it still remained attached by a long thong of leather or moose skin; the Sturgeon would then make off with the handle in tow, closely followed by the canoe; before the fish was killed, some very animated struggles often took place, and not unfrequently the canoe would be upset. Other canoes would come to the rescue; more Indians would be tumbled in the water, not of very great depth; and the scuffle and splashing made by them and the fish, with the wild shouts and whoops of the Indians, rendered the whole an interesting and somewhat exciting scene.

The flesh of the Sturgeon is like coarse beef, quite firm and compact, but very rank and unsavoury. The Indians cut it up in large pieces, and salt it for winter use; it is only eaten by those who can obtain no better fare. The flesh of a young fish is much more delicate than that of an old one; when stewed with rich gravy, its flavour is not unlike that of veal.

In the north of Europe, extensive fisheries are established for taking Sturgeon. The celebrated *caviare* is made of the roe of the female; and isinglass is obtained from the dense membrane forming the air-bladder.

The Sturgeon spawns in fresh water, before leaving it in the autumn, to return to the sea. It is said to spend the winter in very deep water, quite beyond the reach of nets, and as it has not been known to take a hook, is quite safe from the fishermen. The Fry of Sturgeon have never been noticed in

the Saint John, and it is supposed that so soon as they escape from the eggs, they descend immediately to the sea, and do not return until they come again in their turn to deposit spawn.

Order 2. Fishes with fixed Gills.

FAMILY 1. SQUALIDÆ—THE SHARK FAMILY.

GENUS 1. CARCHARIAS.

Species 1. *Carcharias Vulpes*—The Thresher Shark.

This Shark is said to be common on both sides the Atlantic ; it is known from New York to Nova Scotia, by the various popular names of the "Thresher," "Fox Shark," and "Swingle Tail." It pursues schulls of Mackerel, Mossbonkers, and Shad, which it devours in great numbers. In pursuit of Shad it is frequently taken of large size, both in Cumberland Bay and the Basin of Mines, at the head of the Bay of Fundy. It sometimes attains the length of 12 feet ; is of a slate blue color above ; beneath, soiled white, marked with faint bluish spots. The first dorsal fin is triangular, a foot high, and nearly as long at its base ; the second dorsal similar in shape, but much smaller. Its principal organ of defence, appears to be its long, broad, and flexible tail, with which it attacks, and literally *threshes* its enemies.

GENUS 2. SPINAX.

Species 1. *Spinax Acanthias*—The Spinous Dog-fish.

This fish is found everywhere on the Coast of North America, from the Delaware to Davis' Straits. It varies in length from one to five feet ; is of a slate-color above, dull white beneath. The skin is used for various purposes, but chiefly by cabinet-makers and others for bringing up and smoothing the surfaces of hard wood. The livers furnish a valuable oil ; the fish themselves are often dried as food for cattle. In Nova Scotia and Cape Breton, it is dried in great quantities ; and in the winter is fed to pigs, which are said to thrive well upon it.

The Dog-fish, according to Dr. Storer, is so numerous about Cape Cod that in spring and autumn, it furnishes an important fishery solely for its oil. It assembles in large schulls,

and feeds upon the offal and garbage thrown down by the fishermen; it cleans the ground so perfectly, that it is called the true "scavenger of the sea."

The Dog-fish brings forth its young alive. In August 1849, at Point Miscou, in the Gulf of Saint Lawrence, the writer opened a female fish in a gravid state, and found the young perfectly formed; they were placed in the water with the sac attached, and appeared quite lively.

Mr. Couch, an English naturalist, asserts of this species, that it bends itself into a bow for the purpose of using its spines, and by a sudden motion causes them to spring asunder in opposite directions. So accurately is this intention effected, that if a finger be placed on its head, the Dog-fish will strike it, without piercing its own skin.

FAMILY 2. RAIDÆ—THE RAY FAMILY.

GENUS 1. *RAIA*.

Species 1. *Raia Lævis*—The Skate.

This fish is known on the North American Coast, as the smooth backed Skate; and is found from 2 to 4 feet in length. It is of square form; the body smooth, elevated in the centre; of a uniform light brown color above; the tail long and slender, longer than the body, with three rows of spines.

The peculiar form of the Skate adapts it admirably to exist near the bottom, and it may with more propriety be called a flat-fish, than any of the flounder family. Its mode of progression is not very easily described; when the fish is not alarmed, it is performed with a slight undulating motion of its pectoral fins, something between flying and swimming. When a Skate is making its way to seize food, or to escape from an enemy, great muscular exertion is evident.

The young are produced in the latter part of spring, or during summer. They are deposited by the parent fish in thin horny cases, in form nearly square; these are often found along the coast, and being empty, are jocularly termed "sailors' purses."

As food, the Skate is held in very different degrees of estimation in different places. In London, large quantities are consumed, and the flesh is considered delicate and well flavored; but on some parts of the English coast, although caught in considerable numbers, the flesh is seldom eaten, and is used

for
Sk
Bo
fish
is
wid
wic
wit
doc
fine
prin
fath
Har
ing
spa
the
to b
D
Bos
a m
long
V
Cla
app
mill
side
V
Nor
cau
rese
that
mor
brov
lar l
exte
the
shor
hook
it ro
very

for baiting lobster-pots. The French are great consumers of Skate; and its flesh is used extensively both at New York and Boston; by many it is deemed a great delicacy. After the fish is skinned, the fleshy part of the huge pectoral fins, which is beautifully white, is cut into long, thin slips, about an inch wide; these are rolled like ribbon, and dressed in that form.

The Skate is found everywhere on the Coasts of New Brunswick and Nova Scotia, and is frequently taken of large size, with hook and line, by Cod fishers. The writer, while Haddock fishing in June 1848, in the Basin of Annapolis, saw two fine Skate caught at once, each 30 inches over, which were in prime condition. In August 1850, while Pollack fishing in 26 fathoms water off the eastern end of Campo Bello, near Head Harbour Light House, a Skate was taken 3 feet over, weighing full 60 lbs. It was not in good condition, having probably spawned; from the difficulty in bringing it to the surface, for the Skate is exceedingly violent when hooked, it was supposed to be a Halibut.

Dr. Storer states, that Skate are sometimes met with near Boston, weighing 200lbs., and in his Report, he describes a male specimen sent to him from New Bedford, 54 inches long, and 36 inches wide.

With its powerful spade-like snout, the Skate roots up Clams, and crushes them between its flattened teeth, which appear to act upon each other like the cylinders of a rolling mill. It also feeds on other fish, for five different species, besides crustacea, have been taken from the stomach of a Skate.

Species 2. *Raja Erinaceus*—The Hedgehog Ray.

While the writer was at anchor in Whale Cove, near the Northern Head of Grand Manan, in August 1850, a Ray was caught, 18 inches long and 9 inches wide, which so closely resembled the Hedgehog Ray described by Doctor Mitchell, that it is believed to be the same fish. The form was more rounded than that of the Skate; the surface of a pale brown colour, with several groups of prickles arrayed in regular lines. A double series ran along the vertebral line, and extended the whole length of the tail; on the sides of the tail, the prickles were very stiff and stout. It was caught near the shore, in less than two fathoms water, with a large sized Trout hook, used for taking small Pollack. When brought on deck, it rolled itself almost into a ball, displayed its prickles, and bore very great resemblance to a young hedgehog; if struck with

a stick, it lashed about its tail in all directions, and seemed bent on defending itself to the uttermost. One of the men belonging to the vessel, after teasing it some time, threw it overboard, when it swam away, although it had been a long time out of water.

A careful examination of this genus will probably show that several other species exist on the Coasts of New Brunswick and Nova Scotia, besides those now mentioned.

Order 3. Fishes with round mouths, formed into a sucker.

FAMILY 1. PETROMYZONIDÆ—THE LAMPREY FAMILY.

GENUS 1. PETROMYZON.

Species 1. *Petromyzon*—The American Lamprey.

The Lamprey is very common in the fresh waters of the Lower Provinces. It ascends the Saint John in May, and passing into the smaller streams, generally selecting those which have stony or gravelly bottoms; it there deposits its spawn, among conical heaps of stones. They have been often seen in the summer, in pairs, at work together, constructing these mounds, which are about three feet in diameter at the base, and two feet high, composed of stones from the size of an ounce bullet to that of the fist; they often aid each other in carrying the same stone.

It is not known at what time the Lamprey returns to the sea, as it always moves in the night; but there is an impression, that it dies in the fresh water after spawning. This impression may have arisen from the fact, that dead Lampreys are often seen in the streams toward autumn. In August, 1840, the writer, while Trout fishing in the Nerepis, saw dead Lampreys along that river for miles.

The Lamprey is usually of a bluish brown color, mottled with dark olive green along the back; beneath, a uniform dull yellowish olive. The fore part of the body is round; the posterior part flattened. There are seven large branchial apertures back of each eye, passing backward in nearly a straight line, the first smallest. When the Lamprey is unattached, the mouth is a longitudinal fissure; but when attached, it is circular, the lip forming a ring, furnished with hard horny teeth of a yellow colour, within.

This fish is believed to do much damage to mill-dams built upon gravelly or sandy foundations, by working its way beneath the dam, through the sand and gravel, and occasioning leaks, which gradually undermine the dam and eventually lead to its destruction.

LeSueur, a French naturalist, in describing a Lamprey from the Connecticut River, says the annular or ribbed appearance of the fish, is owing to the muscles, which are endowed with great strength, in order to enable it to burrow in the muddy sands of rivers, which it penetrates in a serpentine manner by means of its snout, the large lip performing the functions of a terrier.

The Lamprey has been known to attain the length of 30 inches, with a girth of 6 inches. The writer has never known it to be eaten in New Brunswick, but in the United States and elsewhere, it is held in high estimation by epicures.

LIST OF THE POPULAR NAMES OF FISHES MENTIONED
IN THE FOREGOING CATALOGUE.

I. The Perch Family.

1. The American yellow Perch.
2. The Striped Bass.
3. The White Perch.
4. The common Pond Fish.

**II. The hard checked Family,
(Sculpin.)**

1. The common Bullhead.
2. The Greenland Bullhead.
3. The two-spined Stickleback.

III. The Mackerel Family.

1. The Spring Mackerel.
2. The Fall Mackerel.
3. The Sword Fish.

**IV. Fishes with wrists in their
Pectoral Fins.**

1. The American Angler.

**V. The Wrasse or Rock Fish
Family.**

1. The Sea Perch, or Cunner.

VI. The Carp Family.

1. The common Sucker.
2. The yellow Shiner.
3. The Roach, or Red-fin.
4. The Roach Dace.
5. The Shining Dace, or Shiner.
6. The Chub.
7. The Brook Minnow.
8. The striped Killifish.

VII. The Sheat-fish Family.

1. The common Cat-fish.

VIII. The Salmon Family.

1. The Brook Trout.

- | | |
|---|--------------------------|
| 2. The Great Grey Trout. | 8. The Torsk, or Cusk. |
| 3. The Salmon Trout, (White Sea Trout.) | 9. The Fresh Water Cusk. |
| 4. The Salmon. | |
| 5. The Smelt. | |
| 6. The Capelin. | |
| 7. The White Fish, (Gizzard Fish.) | |

XI. Flat-fish Family.

1. The Halibut.
2. The common Flounder.
3. The Sand Flounder.
4. The Fleuk.

IX. The Herring Family.

1. The common American Herring.
2. The Britt.
3. The Shad.
4. The Alewife, or Gaspereau.
5. The Mossbonker.
6. The Shad Herring.

XII. The Eel Family.

1. The common Eel.
2. The Sea Eel.

XIII. The Sturgeon Family.

1. The sharp nosed Sturgeon.

XIV. The Shark Family.

1. The Thresher Shark.
2. The Dog-fish.

X. The Cod Family.

1. The Bank Cod.
2. The American Cod.
3. The Tomcod.
4. The Haddock.
5. The Hake.
6. The Silver Hake.
7. The Pollack.

XV. The Ray Family.

1. The Skate.
2. The Hedge-Hog Ray.

XVI. The Lamprey Family.

1. The Lamprey.

In all, sixteen Families, comprising thirty two genera, and fifty five species of fish.

LIST OF WORKS CONSULTED.

In preparing the foregoing Catalogue, the classification of Baron Cuvier has been followed, as that generally adopted in the present day by the most eminent naturalists and men of science, and best understood.

The following is a list of the various works consulted, to each of which the writer is under greater or less obligation:—

Regne Animal, par M. le Baron Cuvier ; translated with supplementary additions to the class Fishes, by Edward Griffith, F.R.A., and Lt. Colonel C. Hamilton Smith.

Histoire Naturelle des Poissons, par Cuvier et Valenciennes,
Tom. 21.

History of British Fishes, and Supplement, by Wm. Yarrell.
Fauna Boreali Americana, or Zoology of the northern parts
of America, by Dr. Richardson.

Report on the Fishes of New York, by Dr. J. E. DeKay.

Report on the Fishes of Massachusetts, by Dr. D. Humphreys
Storer.

Synopsis of the Fishes of North America, by Dr. D. H. Storer.

Observations on the Fishes of Nova Scotia and Labrador, by
Horatio Robinson Storer—in the Boston Journal of Natural
History for October 1850.

Fish and Fishing in the United States and British Provinces
of North America, by Henry Wm. Herbert.

The Deep Sea and Coast Fisheries of Ireland, by Wallop
Brahazon.

Parliamentary Reports of the Board of British Fisheries, from
1843 to 1850 inclusive.

The writer earnestly requests, that this attempt to classify
the Fishes of New Brunswick and Nova Scotia, may be viewed
with every indulgence, as the work of one who does not pro-
fess to be a Naturalist, but simply an occasional observer of
nature.

M. H. PERLEY.

Government Emigration Office,
St. John, N. B., March 12, 1851.

APPENDIX.

No. 1.

Copy of Commission from His Excellency the Lieutenant Governor of Nova Scotia.

PROVINCE OF NOVA SCOTIA.



By His Excellency Lieutenant General Sir John Harvey, Knight Commander of the Most Honorable Military Order of the Bath, Knight Commander of the Royal Hanoverian Guelphic Order, Lieutenant Governor and Commander in Chief in and over Her Majesty's Province of Nova Scotia, and its Dependencies, &c. &c. &c.

J. HARVEY, Lt. Governor.

To all Magistrates, Sheriffs, Revenue Officers, and others, inhabitants of said Province :—

Moses H. Perley, Esquire, having been instructed by His Excellency the Lieutenant Governor of New Brunswick, in Council, to inspect and report upon the Fisheries of the Bay of Fundy, during the present season, and having requested from me permission to prosecute the necessary inquiries on the Shores of Nova Scotia, within the Bay of Fundy, which permission is hereby granted—

I do, by these Presents, instruct and require you to give to the said Moses H. Perley such information and assistance as he may request from you, or any of you, in reference to the said Fisheries.

Given under my hand and seal at arms, at Halifax, this twenty ninth day of July, in the year of our Lord one thousand eight hundred and fifty, and in the fourteenth year of Her Majesty's Reign.

By His Excellency's Command.

JOSEPH HOWE.

No. 2.

[Circular.]

GOVERNMENT EMIGRATION OFFICE,
Saint John, N. B., 12th Aug. 1850.

SIR,—Having been appointed by His Excellency the Lieutenant Governor of New Brunswick in Council, to inspect and report upon the Fisheries of the Bay of Fundy—and His Excellency Sir John Harvey, Lieutenant Governor of Nova Scotia, having, by Commission under Seal, authorized me to prosecute the necessary inquiries on the Shores of Nova Scotia, within the same Bay—I beg to acquaint you that I am desirous of obtaining information on the following points:—

1st. As to the present mode of conducting the fisheries for Herrings, Shad, Salmon, Cod, Pollack, Haddock, Hake, and Mackerel—as also descriptions of the nets, lines, and other tackle now employed, in order to know if any, and what, improvements may be introduced.

2d. As to the proper season for each fishery; and whether fish, of any description, are now caught, at times when they are of no real value.

3d. Whether Herrings are now taken by “driving,” with torch-light; and whether the use of standing weirs are, or are not, injurious to the Herring fishery, and destructive to the fry of other fish.

4th. As to the modes now in use of curing and packing the several descriptions of fish, with the view of ascertaining what defects exist in these important particulars.

5th. As to the extent to which the fisheries are injured, as is said, by the use of Herrings, and the fry of other fish, for manure.

6th. As to the extent to which the fisheries, in the Bay of Fundy, are encroached upon by foreigners.

7th. As to the extent to which the fisheries, in the various rivers flowing into the Bay, have been injured by mill-dams and other obstructions, or by illegal modes of fishing.

8th. The Shad fishery in the upper part of the Bay being of much importance and value, and that description of fish becoming every year in greater demand, at an increased price, it is extremely desirable that the most full and accurate information, respecting this fishery, should be obtained, with the view of ascertaining the quantity of fish now caught annually, and the extent to which the fishery may be safely prosecuted.

I respectfully request you to furnish me with whatever information you possess, in connection with the foregoing inquiries,

or which may be interesting or useful, as regards the fisheries generally. Any observations as to existing nuisances, obstructions to the sea or river fisheries, the destruction of fish by extraordinary means, or at unusual seasons, and as to the means of remedying these grievances, will be gladly received.

As the work in which I am engaged is of great importance to the interests of the people of New Brunswick and Nova Scotia, I venture to rely upon your assistance and co-operation in carrying it out as fully as possible. Any communications upon the subject, you will please address to this Office.

M. H. PERLEY.

No. 3.

Letter from Cochran Craig, J. P., of Grand Harbour.

Grand Manan, 10th December, 1850.

SIR,—According to promise, I proceed to give you my views as required by your Circular of 12th August, respecting the fisheries. In reply to your first inquiry, I beg to say, that the fisheries around this Island are those for Herring, Cod, Pollack, Haddock and Hake, which alone are steadily prosecuted.

Herrings are taken in nets with meshes suited to the different sizes of the fish, set in-shore during the night, and on the outer soundings in the day time, when only it is practicable to fish there. They are also taken in weirs, which are now put down here on every bar, and in almost every channel which those fish play through, and even around our shores. This mode, I think, must be most destructive, as in securing such as are generally fit for use, they destroy double the quantity saved, of those that are entirely too small for any purpose whatever, but manure.

All other fishes are taken here by hand lines calculated for the various currents and depths of water.

In answer to your second inquiry, I have to state, that from what I learn from the most experienced fishermen here, the only improper season for fishing for Herrings with nets, is from the middle of July till the middle of September, on the spawning ground at the Southern Head, as they are then and there taken in the act of spawning, and not good; the fishery must be injured from the very great destruction of spawn by the working of the nets. All seasons are considered proper for the catch of every other fish, they always proving

good
from
* T
take
of t
prin
ther
ever
are
non
and
men
The
is v
take
T
the
and
here
the
dire
set f
do l
then
thos
T
here
larg
whic
back
for
heav
weir
in-sh
wher
cann
T
croa
for l
spaw
think
laws
none
com

good, and no damage being considered to arise to the fishery from their being so taken.

* To your third inquiry, I reply, that few Herrings are now taken here by driving with torch-light, as at the proper times of tide for this business there are none to drive, they being principally, as it were, in pound, in the weirs, and often kept there, dead or alive, big or little, until damages are paid before even a few can be got out for bait. That these standing weirs are most injurious to the Herring and in-shore line fisheries, none that I have talked with on the subject pretend to deny, and they lately have been many of our oldest and best fishermen, and among them, several of the weir-holders themselves. The injury the weirs do to the Fry of other fish than Herring, is very little I believe, as it is very rare for the weirs here to take any other fish.

To your fourth inquiry, I answer, that after a perusal of the directions you handed me, as to the curing of Herrings and other fish, I consider the curing and packing of fish taken here as quite defective, and conclude that to remedy the evil, the fishermen cannot do better than adhere closely to those directions, and adopt the modes of curing and packing therein set forth. But instead of this, they will tell you, that they can do better by selling fish, and can find a quicker market for them, as now cured and priced, than if managed agreeably to those directions.

To your fifth inquiry, as to the extent to which the fisheries here are injured by the use of fish for manure, I will with a large majority on my side say, that I consider the extent to which our in-shore fisheries are, and have been, for ten years back injured by the destruction of Herrings, both fit and unfit for proper use, taken in the weirs, is almost endless. The heavy schulls of Herring Fry being yearly cut up by those weirs, and the Cod and Pollack having no bait to draw them in-shore, they are only to be found far out in deep water, where boats and small vessels, (the poor man's dependence) cannot follow them, and there even generally scarce.

To your sixth—The extent to which our fisheries are encroached upon by foreigners, both by their fishing within limits for Hake, and netting for bait at the Southern Head in the spawning season, is I believe very considerable, but might, I think, be prevented by a more rigid enforcement of the existing laws. Our Overseers of Fisheries are all fishermen themselves; none other can here be had, and they cannot be expected to complain of their neighbours to their loss. There is here

much inefficiency in this respect, but I must leave the prescription of a remedy to yourself.

I am unable to give any reply to your other inquiries, as there are no river fisheries in this Island, nor any Shad fishery.

I find the views of the different investigators of these matters sent here by the Government, about as various as the different kinds of fish. Some of them say, that all the Herrings taken here by weirs, are not at all missed in the sea. They say the weirs would always be filled up with Herrings, if the weir stakes and brush wood did not frighten them off into deep water; my reason for their leaving is, that they are all killed. With my neighbours here, experienced fishermen, I agree, that Herrings do not come in from sea at all, but are spawned on our spawning ground, and play round our shores until taken; and that such as are not taken, continue to do so, until they are full grown; when they know our shores as well as sheep know their pasture. Then they go off to sea, where they remain, frequenting shoals and in-shore places only to deposit their spawn. We catch no spawning Herrings, and but few large enough to spawn in our weirs. It is considered a settled point by all experienced fishermen on this Island, that while so many weirs as are now erected here, are allowed to stand, so long will our Herring and in-shore fisheries continue to decline. So long also must we be annoyed with obstructions to our navigation, which many of the weirs are at present.

Next to the weirs, the falling off of our fishery may be attributed to the very great destruction of spawn for many years past at the Southern Head, by the catch being allowed there at all seasons, without proper restrictions. I think this might be remedied by re-enacting the expired law relating to this fishery passed in 1834, which prohibited all netting on this ground from 20th July to 20th October, with an amendment allowing only one boat to each vessel. During the continuance of this law, our Herring and other in-shore fisheries, upon which the main body of our Islanders depend for support, was remarkably improved; at that time however, there were no weirs here.

The practice of throwing offal upon the fishing grounds by foreigners and careless persons, should be prevented by permanent fishery laws. The preservation of spawn ought also to be attended to; but what will be the use of this, if the Herrings are to be fenced in, and killed, before they are the length of your finger?

Your obedient servant,

COCHRAN CRAIG.

M. H. Perley, Esquire.

No. 4.

Letter from Daniel M'Laughlin, Esq., Capt. of Militia.

Grand Manan, S. W. Head, Oct. 9, 1850.

SIR,—It gives me great pleasure to furnish you with information respecting the fishery at the S. W. Head of Grand Manan. I have resided here 21 years, and during 18 years of that time was Overseer of the Fishery. When I first came, the Americans set nets, and robbed the St. John fishermen of their warps and anchors at noon day. I complained of this to their own officers, who took two of the vessels, with the anchors and warps on board of them. At that time, not more than eight St. John vessels fished here for Herrings. But at the present time there are from 40 to 50, all on a small space of ground, with ten, twenty, and thirty nets to each vessel. When the nets are taken up in the morning, they are replaced by others, so that the passage of the fish is obstructed. The nets will become so loaded, that the webs drop from the cork rope, and are then left to rot upon the bottom, except what few they can grapple up. By these means, the fish are driven from their spawning ground; for this mode of fishing is constantly kept up, Sunday not excepted.

It is well known that Grand Manan is the key of the fisheries in the Bay of Fundy. The passage of fish is obstructed by weirs in every place where the fish resort, and not one with a lawful gate; some without any, and those chiefly owned by foreigners, which I beg to say, are no benefit to any but those that own the privilege. Some of them even bring their building timber, their box-stuff, and barrels; when the fishing is over, they take all their fish to Campo Bello, or Indian Island, where they remain until opportunity serves to get them into the United States and get the American brand upon them. Not one of these fish goes to a British market.

In 1834, the inhabitants petitioned and got a law passed, which remained in force until May 1837. They want the same law in force now with a little amendment, as to vessels having boats attached to them—only one boat for the use of the vessel. By this law, the fisheries for Cod-fish and Herrings both revived, while it was in force. I took 70 barrels of the best of Herrings, with 15 fathoms of net, 2½ inch mesh, in November 1835; at that time, they were worth 20s. per barrel.

Yours, &c.

DANIEL M'LAUGHLIN.

M. H. Perley, Esq.

No. 5.

Copy of Regulations for the Shad Fishery in the County of Cumberland, Nova Scotia.

I. It is ordained, that the rules and regulations made at a Special Sessions of the Peace on the 14th day of April, 1840, for the District of Fort Lawrence in the said County, be continued and in full force, as they were made aforesaid, on the said day, viz:—that the Fort Lawrence District have liberty to make their own regulations relative thereto; that no net shall exceed fifty fathoms; and that no family be allowed to set more than that number of fathoms in different nets.

II. That all the nets shall be set on lines, from the shore toward the bank of the River or Bay, and that no two lines of nets shall be set in the range of the tide or current, nearer than one hundred and fifty yards of each other: Provided, nevertheless, that the Overseer be permitted to allow of the setting of nets, either above or below said lines of nets.

III. That the Overseer lay off these several lines, as many as he may deem necessary, for the accommodation of the inhabitants for the District of Fort Lawrence interested in the fisheries; and that each person ballot for his right to a place in such line or lines, each right or share not to exceed twenty five yards in each line, which he may ballot for, according to the number of fathoms in first section.

IV. That the Overseer be required to give six days notice, by advertisement, previous to said laying off and balloting.

V. That these fisheries are the undoubted right of the inhabitants of the District of Fort Lawrence, but it is their opinion that whenever the ground for the inhabitants be laid off, that the Overseer shall admit of any other person to participate in the same advantage, until the ground be taken up under these regulations.

For the Township of Amherst.

I. It is further ordained, that there shall not be any drift-net or nets, allowed to be drifted from the mouth of the River Missaguash, up to Amherst Point Marsh, opposite Barronsfield in said County.

II. It is further ordained, that one net and no more, be allowed to each householder, so that only one net be allowed to each house, and that no other person or persons be allowed a net or nets in any of the strings of nets hereafter mentioned.

III. It is further ordained, that whenever ground for the householders of the Township of Amherst be laid off, that the Overseer or Overseers be allowed to admit of any other person or persons, being householders, so that only one net be allowed to each house.

IV. It is further ordained, that no net or nets of any person or persons, shall be more than twelve fathoms in length, and the depth thereof as each individual may think proper.

V. It is further ordained, that five strings of nets be allowed to be set, from the mouth of the River LaPlanche, to what is called M'Cully's Upper Creek ; and that other strings of nets be allowed from M'Cully's Upper Creek, to Amherst Point Marsh, allowing that no string of such nets be nearer to each other than five hundred yards.

VI. It is further ordained, that the first mentioned five strings of nets be numbered from the mouth of the River LaPlanche upwards.

VII. It is further ordained, that the owner or owners of the soil opposite the strings of nets, or ground taken up for the same, shall have the first privilege or choice ; and that the person or persons who had set nets on previous year or years, shall have the second privilege ; and in case of any difficulty with either of the above parties, the Overseer or Overseers shall draw lots, in relation for either of the above parties, as the case may require, either for the first, second, or third.

[For a breach of any of the above Regulations, a penalty not exceeding 40s. is imposed.]

No. 6.

Letter on the Deep Sea Fisheries, from the Honorable John E. Fairbanks, of Halifax, Nova Scotia.

Woodside, 18th November, 1850.

DEAR SIR,—Previous to the receipt of your kind favour of the 12th, I had made a few notes relative to our fisheries. I much regret that my practical information is so meagre, in a branch of industry of such vital importance to the people of these Colonies ; such as it is however, with the result of some recent inquiries, I now give it you.

The Custom House returns as to fish will give you some idea of the Imports and Exports of this article. From them,

you will learn, how large a quantity we receive from Newfoundland, for which cash is paid to a great extent ; but no information can be obtained as to our domestic consumption. It is doubtless very great, as there is scarcely a family but uses fish, in various shapes ; yet this demand would be greatly increased, if the modes of cure were improved, and the quality could be relied upon. The farmer who teams a barrel of fish a long distance into the interior, and then finds them bad, is cautious how he buys in future. A rigid inspection law, properly carried out, would be of great service.

I think there is scarcely a man in the Province, who has a correct idea of the *present* value of our fisheries ; and I am sure that few can conceive to what extent they are capable of being carried under sound and judicious Legislation and management. We have not only no bounties, but not one shilling of public expenditure has ever been disbursed, in improving a fishing port or station. All our nets, lines, and twines, are imported, the light and simple manufacture of which, might, I think, be introduced, and thus furnish employment to the families of fishermen during the winter season,

With respect to the modes in which our fishing is conducted, there is—first, the Bank fishery ; and second, the Shore fishery. Our “Bankers” are generally of small size, from 20 to 50 tons, neither so well constructed, fitted, or found, as those of the Americans. Our vessels go to sea, from the 1st of April, to the 1st of May. They continue Cod-fishing on the various banks, between Cape Sable and Cape Canso, until about the 10th of June. The Cod they take, are very fine, thick, well-fed fish. If well cured in pile, not pickled in casks, they would suit the Spanish market, and get there earlier than those from Newfoundland, by two months. Those pickled in casks before being dried, *give* on the voyage ; and this, no doubt, has caused the loss of many cargoes, by what is called “sweating.”

These “Bankers” also take Halibut, sometimes in large quantities ; but the fins only are used, whereas the whole bodies, when properly preserved and dried in strips, would meet a good market in the United States. The tongues and sounds are also generally thrown away, in the hurry of cleaning.

Much time is lost by these “Bankers” in coming home on Saturday night, as part of the following week is spent in returning to their fishing ground. The Americans cannot do this, consequently have more time to secure their fares.

In June, our “Bankers” proceed to Cape Breton, the Gulf

of St
carg
last
valu
Dog-
Thei
pigs
feed
the f
will b
brand
limite
the u
Th
next
fish f
sons,
taken
is not
to the

Th
to a g
boats
are us
within
dilige
of deb
with s
ing an
them
This
after t

Wi
serve,
numb
not on

Bet
are th
son's
that I
the qu
The fi
and H
are in

of Saint Lawrence, or the Labrador, whence they return with cargoes of Cod, Seal-skins, &c. Many reach home about the last of August, and commence the catch of Dog-fish, which are valuable on account of the oil their livers yield. Eight hundred Dog-fish, if of good size, yield a barrel of oil of 31½ gallons. Their dried bodies are sold at 2s. 6d. per hundred, for feeding pigs during the winter. Two fish, boiled or roasted, per day, will feed a good sized store pig, from November until May, when the food must be changed, and the flavour given by the fish will be entirely obliterated. This is one of the most valuable branches of our fishery; its outfit costs very little, but it is limited, both by neglect and an unfortunate prejudice against the use of the fish as food for pigs.

The fishing for Dog-fish having slackened, our vessels are next engaged in taking Herrings and Mackerel, continuing to fish for the latter until late in November. During some seasons, this is done both with nets and seines; but the quantity taken in the seines is sometimes very large, and then the cure is not so good, which causes a decided preference to be given to the net fish.

The second branch, the shore or boat fishery, is carried on to a greater or less extent, along our whole coast. Whale-boats manned by 2 to 4 men, and large sail boats, undecked, are used. They commence about the 20th of May, and fish within the distance of 10 to 15 miles from the land. The diligent and active make a tolerable living, and keep out of debt; but as these men have generally a few acres of land, with some cattle and sheep, their time is divided between fishing and farming, which operates injuriously to both; many of them are therefore poor, and unable to pay for their outfit. This compels them to hire with others the following year; after that, they seldom redeem their promises to the merchant.

With regard to the fishery within this Harbour, I may observe, that it is chiefly carried on in boats, and where any number of "Bankers" might be employed, I may say we have not one deserving the name.

Between Halifax and Cape Sambro, about 12 miles, there are three fishing stations on the western shore, viz:—Ferguson's Cove, Herring Cove, and Portuguese Cove. I regret that I cannot give you either the number of men or boats, or the quantity of fish cured; it is however very considerable. The fishermen there cure a large quantity of Cod, Mackerel, and Herring; they have many seines and nets, and generally are in comfortable circumstances. They supply the Halifax

market with Cod, Haddock, Mackerel, Halibut, Salmon, Herrings, Lobsters, and a few other varieties of fish.

Few fish markets in America are better supplied, or at cheaper rates, than that of Halifax. With a little more exertion, and by good prices, it might be made equal to the demands of the population, however extensive.

On the eastern side of the Harbour, south of Woodside, there is a population of about one thousand, many of whom reside on their own farms, and prosecute the shore fishery; they have also two or three small "Bankers," and although either the fishing or farming might afford them a living, I attribute all the poverty that exists among them, to the union of the two pursuits, which has invariably ended in disappointment.

I will now give a short detail of my own experience at Woodside, where I recently had the pleasure of seeing you. About three years since, I visited Capé Cod and Marblehead, in order to learn their mode of conducting the fishery, and to procure some experienced men. I was told, that the best they had were Nova Scotians. They were surprised to find us behind them, with advantages so much superior to their own—they having to sail one thousand miles to the fishing banks, out and home, while those banks are almost at our very doors—this, with the low cost of our vessels, salt, &c., naturally induced them to think, that it would be a more profitable pursuit with us, than with them. So I thought, and I still continue of the same opinion. On my return, I bought a small vessel, built the flakes, and commenced a small establishment. There has been no scarcity of fish on the ground; those cured were of good quality, early in market, and sold well. Had I been able to offer 1000 to 1500 quintals of Codfish in the market, I have little doubt but 15s. per quintal might have been obtained for them; but the quantity was too small to make up a cargo, except for the West Indies, with other parcels. The result, however, of the three years has been unfavourable,—the vessel's half of the fish not producing more than enough to pay the provisions and supplies, leaving nothing for wear and tear. The want of exertion on the part of the crew, their insubordination, carelessness, and improvidence, have led to these results, and deterred me from increasing an establishment, which, I feel assured, would not only be profitable to me, but beneficial to the community; but I am not without the hope, that fitter men may yet be found.

We ought to have five hundred sail at least out of this port. They should not come into port during the season, unless to

land
make
easil
bour
Fr
I ent
made
seaso
henc
whol
the G
plies
boun
erme
men
Ne
inqui
indeb
bran
the e
must
the v
Th
seaso
on th
next
high.
I h
prise
no do
ing a
the s
appli
plove
as it
speed
comf
witho
ing t
rupti
Ne
chan
fish a
maki

land fish, or from unavoidable necessity. A shore crew should make the fish near the city, where suitable labour could be easily got. Fish can be made, in clear weather up the harbour, while the coast is enveloped in fog.

From my own experience, corroborated by practical men, I entertain the opinion, that the fishing on our coast could be made more profitable than that of Newfoundland. There the season is short, and the weather more uncertain, while from hence, including a Bay voyage, the fish may be taken the whole year. Our fisheries however, receive no support from the Government; our merchants furnish the provisions and supplies only, not owning the vessels themselves. The American bounties, and protective duties, enable them to give our fishermen high wages, and we cannot be surprised that our best men leave us.

New Brunswick has, I think, acted wisely in directing the inquiry you are now engaged in making, and must feel much indebted to you, for your exertions in exploring this valuable branch of her resources. I wish our Government would copy the example, for the period will soon arrive when our attention must be turned more seriously towards the fisheries, and then, the value of these investigations will be duly appreciated.

The Mackerel fishery on the Sable Island banks, has this season been productive, and seines have been used in hauling on the shores of that Island. This will induce a larger outfit next season, the prices in the United States being now very high.

I have often thought, that when men of capital and enterprise turn their attention to this branch of industry, as they no doubt will do hereafter, many improved modes of conducting it will be introduced. Steam, which has been pressed into the service of every other business, will I think be found equally applicable to this. Propellers of a cheap cost might be employed; they would carry a larger crew, who could catch fish, as it is a simple act, once they are hooked. They could speedily weigh anchor, shift their ground, keep their crew comfortable when off work, and run into and out of Port without loss of time, leaving to shoresmen the labour of making the fish, and so fishing the whole season with little interruption. This is one idea.

Next, steam is employed in drying many articles of merchandise—why not fish? How much labour is lost, after the fish are taken and salted! How many cargoes are spoiled in making from exposure to bad weather, and destroyed by

becoming salt-burnt, mildewed, and slimy! Could science not discover some practical plan of curing them in suitable buildings by steam? I think it may, and yet will be done.

I met a fisherman yesterday from Canso, who had been driven off the land some forty miles. He assured me, that he ran all night through unbroken schulls of Mackerel, steering south-west. Now, on our shore, this fishery has been a failure this fall, and this man's report tallies with those of many old fishermen with whom I have formerly conversed, namely, that Mackerel are abundant every season, but from some cause, at times, pass to the westward in the Fall, at a great distance from the land. This fact, although well known, has not yet led to the introduction of the deep-sea net fishery as followed in the North Sea, where at times 300 fathoms of net are used for one vessel in taking Herrings; this mode may one day be used here, with advantage.

The bultow fishing, as followed by the French on the Grand Bank, is not known on our shores; some fishermen think it would do, but they have not the enterprise to try it.

These ideas have frequently occurred to me; it is now rather late in life for me to engage in a pursuit of this nature, but the field is boundless. The supply can never be exhausted, nor the demand that exists in almost every country be satisfied. In a few years, America itself will consume all these Provinces can furnish, and I hope the inventive spirit of the age will apply itself to the investigation of these subjects, and point out to the young and enterprising, improved modes of applying their exertions to this most valuable branch of North American industry.

I regret that this communication, instead of these discursive remarks, does not contain that precise statistical information of which you were in search. I would gladly have substituted it instead, but as I had prepared you to expect that it could not easily be procured, I hope you will not feel disappointed. I so highly approve of the service in which you are engaged, that I was willing to give you my ideas on the subject, however imperfect they might be; but I shall neglect no opportunity of furnishing you with any further information I may acquire on this interesting subject.

I am, my dear Sir, &c.

JOHN E. FAIRBANKS.

M. H. Perley, Esquire.

No. 7.

Extract of a Despatch from Lord Stanley to Lord Falkland, dated 17th September 1845, preceded by a note of the circumstances which led to its transmission.

In 1841, Mr. Stevenson, the American Minister at the Court of St. James, addressed a note to the Secretary of State for Foreign Affairs, complaining of the authorities of Nova Scotia for having seized a number of American vessels, which were fishing within head-lands, but yet at a greater distance than three miles from the land.

This complaint led to a case being submitted by the Assembly of Nova Scotia, as to the construction of the Convention of 1818 relative to the fisheries, and the opinion of the Queen's Advocate General and Attorney General of England was thereupon given, that the prescribed distance of three miles was to be measured from headlands, or extreme points of land, and not from the indents of the coast. This opinion will be found in the Appendix to the Report on the Fisheries of the Gulf of St. Lawrence, in 1850, as Document No. 11.

The American Minister continued to reiterate his remonstrances until 1845, when Lord Stanley, by a Despatch to Lord Falkland, dated 19th May 1845, intimated that Her Majesty's Government deemed it advisable for the interests of both countries, to relax the strict rule which excluded American fishing vessels from entering the Bays on the coast of British North America.

Lord Falkland immediately communicated to Lord Stanley his objections to the proposed arrangements, which were couched in very strong terms. The Honorable Mr. Simonds, then a member of the Executive Council of New Brunswick, being about to proceed to England, was instructed by the Council to oppose the proposed concession. In London, Mr. Simonds met the Honorable George R. Young, who immediately bent his energies to the same end. On the 4th of August 1845, Mr. Young presented to Lord Stanley, a most able and elaborate paper upon the fishery question, which appears to have had great weight; it is to be regretted that this valuable document has not yet been published. The exertions of Mr. Simonds and Mr. Young were successful, and the following statements made by those gentlemen on their return, in the Legislatures of New Brunswick and Nova Scotia, of which they were respectively members, will best explain their proceedings.

On the 2nd of February 1846, in the House of Assembly, Mr. Simonds rose and said—"He had some explanations to make relative to the right of the Americans to fish, under the Convention of 1818. It had been the intention of the Home Government to concede to the fishermen of the United States, the right to fish in our waters. At a meeting of the Council in this Province, it was considered highly important, that personal remonstrance should be made on the subject, to the authorities in Great Britain; and as he (Mr. Simonds) was about going to Europe, an Order in Council was passed, authorizing him to make the proper representations. He was the only person officially appointed by the Colonies; but on his arrival in London, he found a distinguished Nova Scotia gentleman, (George R. Young, Esq.,) who was anxious to join him. The Gaspé Fishing and Mining Company were also anxious to depute a gentleman to join with him. Believing that he would be materially assisted by these gentlemen, he gladly acceded to the propositions, and they waited first upon a member of the Board of Trade, whom they made acquainted with the facts of the case. They then had an interview with Mr. Hope, the Under Secretary for the Colonies, to whom they represented the case in its strongest light. They next saw Mr. Addington and Mr. Hope together, and went thoroughly into the case with them, showing the injury the contemplated measure would inflict upon the Colonies. These representations, they had good reason to believe, were effectual. They then had an interview with Lord Stanley, to whom they made the same representations. In this duty, it fell to him, (Mr. Simonds) to state the case, he being the only person officially appointed, but he was ably assisted by the other gentlemen. From Lord Stanley they received assurance that nothing should be done in the matter to injure the Colonies; and he (Mr. Simonds) had no doubt, the representations made, had induced Her Majesty's Government to decline, for ever, the proposal of yielding to the United States any further rights to fish in our waters, than those already granted before he (Mr. S.) had gone to England. The Americans, under this arrangement, were at liberty to fish in the Bay of Fundy, provided they did not come within three miles of the shore."

On the 14th February 1846, the Hon. Mr. Young laid on the table of the Assembly of Nova Scotia, copies of the documents which he had prepared in England on this subject, including the able letter to Lord Stanley already mentioned, accompanied by the following memorandum:—

"After the transmission of my note of 1st August, Mr. Simonds and myself had a long interview by appointment with Mr. Hope, and Mr. Addington of the Foreign Office, on the subject of these concessions, and before whom the effect of them was fully discussed. Our strong ground of argument was, that the right of the Colonies being determined by the Treaty of 1818, the interpretation of that Treaty should be left without further negotiation, to the action of the High Court of Admiralty.

"By the Steamer which left Liverpool on the 4th August, I sent a letter to the Speaker, and my other political friends, requesting them to take such action on it, as they might deem advisable.

"On the 6th of August, the second note and the letter which accompanied it, were sent in, with the full approval and sanction of Mr. Simonds.

"A note from the Hon. Colonel Wilbraham, the Private Secretary of Lord Stanley, was received, appointing a day for an interview.

"Such interview was accordingly held; and at the same time, Mr. Norman, and other gentlemen representing the interests of the Gaspé Fishing Company, Mr. Simonds as the Agent of New Brunswick, (Henry Bliss, Esquire, not being then in London,) and myself, as a Member of the Legislature of Nova Scotia, were received by Lord Stanley, and Mr. Hope, at the Colonial Office. The question was then fully discussed in all its bearings; and Lord Stanley said, at the conclusion of the conversation, that no decision should be come to, until we were further consulted. On behalf of the Legislature and the country, I earnestly entreated, that the concessions sought for by the American Minister should not be ceded, until the question should be submitted to the Assembly.

"On my return to London, from Scotland, in September, I ascertained at the Colonial Office, that the Government had determined not to grant the concessions sought for, and that a Despatch, of which I saw the copy, had been sent to their Excellencies Lord Falkland and Sir William Colebrooke, by the Mail of the 19th September, to that effect."

The following is an Extract from the Despatch alluded to, as being addressed to Lord Falkland :—

Downing Street, 17th Sept. 1845.

Her Majesty's Government have attentively considered the representations contained in your Despatches, No. 324 and No.

331, of 17th June and 2d July, respecting the policy of granting permission to the fishermen of the United States to fish in the Bay of Chaleur, and other large Bays of similar character, on the Coasts of New Brunswick and Nova Scotia; and apprehending from your statements, that any such general concession would be injurious to the interests of the British North American Provinces, we have abandoned the intention we had entertained upon this subject; and shall adhere to the strict letter of the Treaties which exist between Great Britain and the United States, relative to the Fisheries in North America, except in so far as they may relate to the Bay of Fundy, which has been thrown open to the Americans under certain restrictions.

In announcing this decision to you, I must at the same time, direct your attention to the absolute necessity of a scrupulous observance of those Treaties on the part of the Colonial authorities, and to the danger which cannot fail to arise, from an overstrained assumption of the power of excluding the fishermen of the United States, from the waters in which they have a right to follow their pursuits.

STANLEY.

1511224-2